

DEPARTMENT OF TRANSPORTATION

Research and Special Programs
Administration

49 CFR Parts 171, 172, and 173

[Docket No. HM-145E; Notice No. 86-3]

Reportable Quantity of Hazardous
SubstancesAGENCY: Research and Special Programs
Administration (RSPA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to amend the Hazardous Materials Regulations (HMR) by adding hazardous substances, including their reportable quantities, to the Hazardous Materials Table at § 172.101. RSPA is taking this action in response to the Environmental Protection Agency's (EPA) issuance of a final rule which adjusted or reaffirmed the reportable quantity (RQ) levels for many of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) hazardous substances. This proposed action is necessary to identify these materials in the HMR as hazardous substances and should promote easier identification of CERCLA hazardous substances for both shippers and carriers.

DATE: Comments must be received on or before August 25, 1986.

ADDRESSES: Dockets Branch (DHM-53), Office of Hazardous Materials Transportation, RSPA, U.S. Department of Transportation, Washington, DC 20590. Comments should be submitted, when possible, in five copies. The Dockets Branch is located in Room 8426 of the Nassif Building, 400 Seventh Street, SW., Washington, DC. Dockets may be reviewed between the hours of 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: Lee Jackson (202) 755-4990 or George Cushmac (202) 426-2311, Office of Hazardous Materials Transportation, RSPA, Washington, DC 20590.

SUPPLEMENTARY INFORMATION:**I. Background**

Section 306(a) of CERCLA requires the Secretary of Transportation to list all "hazardous substances" as defined by CERCLA as "hazardous materials" under the Hazardous Materials Transportation Act (HMTA). By a final rule issued on March 19, 1981, Docket No. HM-145C [48 FR 17738], RSPA fulfilled this requirement by amending 49 CFR 172.101 to include a list of these materials immediately following the Hazardous Material Table (Table).

The definition of "hazardous substance" as defined in section 101(14) of CERCLA includes substances designated under section 307(a) and section 311 of the Federal Water Pollution Control Act (Clean Water Act or CWA), section 3001 of the Solid Waste Disposal Act (commonly known as the Resource Conservation and Recovery Act (RCRA)), and section 112 of the Clean Air Act (CAA). With the exception of substances designated under section 311 of the CWA, CERCLA also established the reportable quantities for hazardous substances from these sources at one pound and gave EPA the authority to adjust the size of the reportable quantity by regulations. While listing all of the CERCLA hazardous substances in the HMR, RSPA did not apply regulations under the HMTA to those substances that were not already subject to the HMR. If such action were taken, there would have been a vast increase in the number of shipments regulated under the HMR, many of them for relatively innocuous materials. During the incorporation of the CERCLA list of hazardous substances under HM-145C, RSPA indicated that when the EPA exercised its authority under section 102 of CERCLA to adjust the RQs for those substances, RSPA would again examine the question of whether to subject these substances to regulation under the HMTA.

In order to develop a coordinated regulatory program, RSPA has worked closely with EPA's Emergency Response Division on the designation of hazardous substances and adjustment of reportable quantities (RQs) since CERCLA was enacted.

EPA Action

In a Notice of Proposed Rulemaking (NPRM) issued on May 25, 1983 [48 FR 23552], EPA proposed to adjust the RQ level for 387 of the 698 CERCLA "hazardous substances". In this NPRM, EPA listed for the first time the "hazardous substances" designated by section 101(14) of CERCLA. This NPRM also discussed in detail the CERCLA notification requirements, the methodology and criteria used by the EPA to adjust the reportable quantity levels, and the RQ adjustments proposed under section 102 of CERCLA and section 311 of the CWA.

RSPA commented on this NPRM on August 8, 1983 [48 FR 35965]. In the comments, RSPA concurred with EPA's expressed intention "to work with DOT to develop a coordinated (sic) and integrated set of regulations so that shippers and carriers of hazardous substances will be subject to only one

set of regulations" [48 FR 23560]. RSPA in turn expressed a commitment to examine to what extent CERCLA "hazardous substances" should be regulated under the HMR.

By Final Rule published in the *Federal Register* on April 4, 1985 [50 FR 13456], EPA exercised its authority under CERCLA and adjusted the RQs for 340 of the CERCLA hazardous substances. RSPA is responding to this EPA action by issuance of this NPRM.

DOT Action

As previously stated, EPA published an NPRM on May 25, 1983 [48 FR 23552]. This NPRM proposed to adjust the RQ levels for 387 of the 698 CERCLA hazardous substances. In response to the EPA NPRM, DOT published an Advance Notice of Proposed Rulemaking (ANPRM) on August 8, 1983 [48 FR 35965]. This ANPRM considered the regulatory impact that the incorporation of CERCLA hazardous substances into the HMR would place on shippers and carriers. Basically, the ANPRM examined the extent the HMR should apply to CERCLA hazardous substances. In this ANPRM, RSPA proposed eight regulatory alternatives as possible ways of incorporating the CERCLA hazardous substances into the HMR. These alternatives are repeated as follows:

Proposed Regulatory Alternatives

1. RSPA may issue a rule to incorporate all CERCLA "hazardous substances" into the Table as "hazardous substances" under the HMR, applying the RQ for each substance in effect at that time (including the statutory RQ of one pound for those substances for which EPA has not concluded its evaluations).

2. With regard to those CERCLA "hazardous substances" for which EPA has completed its evaluations and established RQs, RSPA may issue a rule to incorporate those substance into the Table as "hazardous substances" under the HMR, but withhold further action on all other CERCLA "hazardous substances" until EPA has completed its evaluations and established RQs for them.

3. RSPA may withhold further action until EPA has completed its evaluations and established RQs for all CERCLA "hazardous substances".

4. As a variation of Alternative 1, RSPA may issue a rule with regard only to those substances for which RSPA possesses adequate information concerning the need for and consequences of such a rule, and for

which the potential benefits outweigh the potential costs.

5. As a variation of Alternative 2, RSPA may issue a rule with regard only to those substances for which RSPA possesses adequate information concerning the need for and consequences of such a rule, and for which the potential benefits outweigh the potential costs.

6. As a variation of Alternative 3, RSPA may issue a rule with regard only to those substances for which RSPA possesses adequate information concerning the need for and consequences of such a rule, and for which the potential benefits outweigh the potential costs.

7. RSPA may do nothing. This would mean that the only hazardous substances subject to the HMR would be those already listed in the Table.

8. RSPA may decline to apply the HMR to hazardous substances by removing those already listed in the Table and by not adding any others. This would return DOT to its traditional role of safety regulation under the HMTA.

Comments on Proposed Alternatives

Thirty-three commenters addressed these alternatives in their comments. The majority of commenters felt that RSPA should further regulate hazardous substances. Commenters taking this position either Alternative No. 1 or No. 2. Both of these alternatives are similar because they propose to regulate CERCLA hazardous substances under the HMR. The difference between these two alternatives in the manner in which hazardous substances are adopted into the HMR.

Under Alternative No. 1, all CERCLA hazardous substances would be regulated under the HMR following issuance of a final rule by RSPA. Those substances whose reportable quantity level had not been adjusted would still be regulated under the HMR at the statutory RQ of one pound. Under Alternative No. 2 only those substances that had EPA adjusted RQs would be regulated under the HMR. Those substances whose RQ values had not been adjusted would be listed but not regulated. RSPA would consider subjecting these substances to regulation when their RQs had been adjusted by EPA.

While each of the proposed regulatory alternatives provides a method for dealing with CERCLA hazardous substances, RSPA believes that the adoption of CERCLA hazardous substances into the HMR under Alternative No. 2 is the most effective course of action. This alternative

complies with the Paperwork Reduction Act by controlling the additional paperwork burdens associated with regulating CERCLA hazardous substances. Review of the proposed alternatives indicates that while the choice of one of the other alternatives may be feasible, their selection is not warranted. Selecting Alternative No. 3, 4, 5, or 6 would require RSPA to either delay issuance of a rule on hazardous substances until EPA takes further action or require that RSPA issue a rule on hazardous substances based solely on RSPA's evaluation of these substances. RSPA does not believe that either approach is acceptable.

Alternative No. 7 proposes that RSPA do nothing. RSPA would continue to only regulate those substances that are already in the Table. From the comments RSPA received to this alternative, carriers are concerned that pursuing this course of action would ignore their need for additional information to be shown on shipping papers. This additional information is believed necessary to alert them to the fact that they are carrying hazardous substances and to inform them that if a "reportable" amount is spilled, a report is required by CERCLA. If RSPA were to take no further action, there would be no identification of new hazardous substances on shipping papers. For this reason, RSPA does not believe that selection of this alternative is warranted.

The selection of Alternative No. 8 would mean that RSPA would decline to regulate hazardous substances under the HMR. Choosing this alternative, RSPA would be acting on the premise that the regulatory controls which are currently in place for hazardous substances are adequate and that regulation under the HMR is not necessary. RSPA does not believe this. There is a need for carriers to have information about hazardous substances. If a carrier is aware that a hazardous substance is being transported and a spill occurs in a reportable quantity, the carrier can make the required spill report. Also, shippers should know as soon as possible what the final RQs are for hazardous substances, so they can finalize their instructions to shipping and operating personnel as well as to their carriers. They can also make any needed changes to their shipping documentation and training materials.

Considering the tremendous paperwork burden associated with the adoption of Alternative No. 1, and the fact that the selection of Alternative No. 2 will keep the HMR consistent with the EPA regulations, RSPA believes that Alternative No. 2 is the most practical

way of satisfying these information needs.

It is RSPA's position that DOT has discretionary authority under Section 105 of the HMTA to determine whether, and to what extent, to regulate hazardous materials. (A detailed discussion of this position was provided in the ANPRM.) With regard to the CERCLA hazardous substances for which EPA has issued a final rule adjusting their reportable quantities, RSPA has decided to propose to add them all to the hazardous materials table.

Questions Posed in the ANPRM

RSPA requested that commenters to the ANPRM respond to fourteen questions regarding CERCLA hazardous substances. Specifically, these questions were aimed at giving RSPA an idea of the potential impact attributable to each of the proposed regulatory alternatives, and to assist RSPA in making the analyses required by Executive Order (E.O.) 12291 and 5 CFR Part 1320. Each question is repeated herein:

1. What is the anticipated frequency of shipments that are not currently subject to the HMR, but that would become subject to them if RSPA were to adopt RQs under the regulatory alternatives?
2. What new costs would the adoption of RQs under the regulatory alternatives impose on shippers and carriers of CERCLA "hazardous substances"?
3. What is the anticipated frequency of releases from shipments that would exceed the RQ and what is the likelihood of clean-up efforts resulting from the reporting of these releases?
4. What are the anticipated environmental benefits of such clean-up efforts?
5. With regard to these releases, what is the likelihood that clean-up would occur even if RSPA did not adopt one of the regulatory alternatives?
6. What would be the effect of the adoption of RQs under the regulatory alternatives on international commerce?
7. What would be the effect on the adoption of RQs under the regulatory alternatives on the potential for liability and on the insurability of shippers and carriers of CERCLA "hazardous substances"?
8. Some CERCLA "hazardous substances" are hazardous only in certain forms. For example, while lead and other heavy metals are designated as CERCLA "hazardous substances" they are hazardous only when they are in very small particles. Therefore, EPA has proposed to exempt from reporting releases of these metals except for particles that are less than 100 micrometers in diameter. Are there other CERCLA "hazardous substances" that are hazardous only in certain forms to which RSPA could similarly limit the applicability of the HMR?
9. If RSPA were to extend the applicability of its shipping paper and package marking requirements through the adoption of RQs

under the regulatory alternatives, would the increased frequency of their use tend to diminish their effectiveness as hazard warnings?

10. What other factors should RSPA consider in determining the need for and consequences of the regulatory alternatives?

11. What other factors should RSPA consider in determining the potential benefits and the potential costs to society of the regulatory alternatives?

12. What other information would be of value to RSPA in conducting the analyses required by E.O. 12291?

13. To assist RSPA in fulfilling the requirement of 5 CFR Part 1320, which of the regulatory alternatives, necessary for the proper performance of the agency's function, would be the least burdensome?

14. What is the "practical utility", as that term is defined at 5 CFR Part 1320.7(q), of the "collection of information" that would result from the adoption of RQs under the regulatory alternatives?

Comments on Questions Posed in the ANPRM

Of the thirty-three comments received, only eight commenters addressed any or all of these questions. A brief synopsis of their responses is provided herein. A detailed discussion of the comments received to these questions is available for review in the regulatory evaluation and supporting documentation located in the public docket file of HM-145E.

RSPA received a few comments to the question concerning the impact the adoption of RQs would have on international commerce. These comments indicated that by increasing the number of CERCLA hazardous substances subject to the HMR, there may be an increase in the number of materials that would be regulated in international commerce. Commenters stated that new requirements for hazardous substances have the potential to be burdensome and confusing to shippers in other countries. No substantive evidence was provided to back up this claim. Since the adoption of the first hazardous substances into the HMR in Docket HM-145B on May 22, 1980, [45 FR 34560] and November 10, 1985, [45 FR 74640] RSPA has not been made aware of any major problems occurring relative to the import or export of hazardous substances. Secondly, DOT possesses very limited knowledge of the volume of hazardous commodities which are imported and exported annually. Without knowing the number of hazardous substances that will be incorporated into the HMR and the number of shipments of these materials that are being imported into or exported from the United States, RSPA has no way of knowing what effect the adoption of RQs under one of the proposed regulatory alternatives would

have on international commerce. This question was posed by RSPA in the AMPRM because RSPA had no quantifiable data on these shipments. RSPA had hoped commenters would furnish this data. They did not.

Only a few comments were received concerning the effect the adoption of RQs would have on the liability and insurability of shippers and carriers of CERCLA hazardous substances. Most of the comments RSPA received on this question pointed out that should any of the regulatory alternatives be adopted, there would virtually be no change in the liability or insurability of shippers and carriers of these substances. One commenter, representing an association comprised of carriers, thought the full adoption of hazardous substances under the HMR would greatly improve the liability and insurance situation of carriers. This commenter contended that if carriers had better, more complete knowledge that a hazardous substance was being transported, they would exercise greater caution when transporting these shipments. As a result, insurance rates for transporting these substances might stabilize. However, another commenter contended that a shipper's and carrier's potential for liability might be increased substantially should the CERCLA hazardous substances be adopted, due to the increase in the number of regulated shipments. No supportive documentation was furnished by either commenter to substantiate their positions.

In response to the question regarding whether there are other CERCLA hazardous substances that are only hazardous in certain forms, RSPA only received one comment. The commenter expressed concern about lead oxide and lead silicate having an RQ of one pound under the EPA rule and stated that even though these substances are less toxic than other substances with higher RQs, EPA has failed to develop a specific RQ for them. This commenter urged RSPA to develop substantial supportive documentation on all substances which present an imminent hazard and threat to the environment before imposing any regulations on them.

RSPA is sympathetic to this commenter's concern, however, EPA is the only agency which has the authority under CERCLA to adjust hazardous substance RQs. RSPA's authority under the HMTA is to determine which materials pose an unreasonable risk to health and safety or property when transported in commerce and to regulate them at an appropriate level. The EPA develops a substantial supportive record for a named substance before an RQ

level is established. In the final rule dated April 4, 1985, [50 FR 13456] EPA stated that they have deliberately decided not to establish RQs for the many broad, generic classes of organic and metallic compounds. Although not specifically listed by name, lead oxide and lead silicate would be included in one of these broad, generic classes. EPA has also determined that the notification requirements under CERCLA apply only to those specific compounds whose RQs are listed in the EPA Table, the List of Hazardous Substances and Reportable Quantities (40 CFR 302.4).

Comments made to the question concerning what other factors RSPA should consider in determining the need for and consequences of the regulations stressed two points. One, RSPA should consider the effect that each of the regulatory alternatives would have on small businesses. Secondly, RSPA should consider a carrier's liability and the potential environmental damage that could result if a hazardous substance is spilled and the appropriate response is not initiated because the substance was not properly reported.

RSPA is required to give full consideration to the impact any regulatory action it takes would have on small businesses. With regard to carrier's liability, CERCLA requires that all spills of a CERCLA hazardous substance which occur in a reportable quantity be reported to the National Response Center. The incorporation of CERCLA hazardous substances into the HMR will promote better identification of these materials, leading to greater compliance with the reporting requirements and lessening the potential for environmental damage.

Concerning the question about what new costs shippers and carriers would incur should CERCLA hazardous substances be adopted under one of the regulatory alternatives, most commenters stated that shipment costs would increase proportionally with the increase in the number of shipments. No quantitative data was provided to support this conclusion. RSPA acknowledges that costs may increase if the number of shipments subject to the HMR increases. Of course, any increase in costs is dependent on many factors ranging from the degree of hazard posed by the materials being shipped to the volume of materials and the number of shipments being made. With the exception of Alternative No. 7, selection of any of the alternatives may entail additional costs. This is expected. These costs result from compliance with the documentation, packaging, marking, labeling and placarding requirements of

the HMR. E.O. 12291 requires that no regulatory action shall be undertaken unless it can be demonstrated that the potential benefits to society which the proposed regulation provides outweigh its potential costs. (A detailed evaluation of the economic impact of this regulation can be found in Appendix B of the regulatory evaluation).

In response to the question concerning the anticipated frequency of shipments currently not subject to the HMR and the cost increase that would occur if these shipments become subject to the HMR, more than half of the commenters believed the number of regulated shipments would increase. Most of the commenters thought this increase would be substantial, however, no quantitative data was furnished. These comments support RSPA's contention in the ANPRM that if certain categories of CERCLA hazardous substances are brought under the umbrella of the HMR, there could be a significant increase in the number of shipments subject to the HMR. When a material becomes subject to the HMR, shippers incur costs by complying with documentation and package marking requirements. Carriers become subject to additional requirements such as loading requirements, driving and insurance rules and reporting requirements. These requirements, of course, would not be new ones for shippers and carriers of those substances who are already subject to the HMR.

II. Proposed Rule

The primary purpose of this notice of proposed rulemaking is to incorporate CERCLA hazardous substances into the HMR as proposed under Alternative No. 2. RSPA proposes three actions. First, RSPA proposes to add to the Table those CERCLA hazardous substances which have EPA established final RQs. RSPA will take no action at this time on unevaluated hazardous substances as these will be assessed by RSPA after EPA establishes their final RQ's. When final RQs are established for these substances, RSPA will consider adding them to the Table. The changes proposed in this NPRM to incorporate certain CERCLA hazardous substances into the HMR should enhance the carriers' awareness, through the shipping paper identification, that they are transporting hazardous substances.

The second action RSPA is proposing is to revise the definition of a hazardous substance in § 171.8 to include hazardous wastes which are not specifically listed by the EPA as a hazardous waste, but which exhibit an EPA characteristic of ignitability,

corrosivity or reactivity (ICR). RSPA believes that revision of the definition for a hazardous substance to include ICR materials is necessary because EPA has stated that when a reportable quantity of any ICR waste is released (spilled), the release is reportable under CERCLA.

The third action RSPA is proposing is to change the hazardous substance discharge notification requirements of 49 CFR 171.17. EPA pointed out in its comments to the ANPRM, HM-145E, that the language of this section applies only to discharges of a hazardous substance which occur in a reportable quantity into navigable waters or upon adjoining shorelines. EPA stated "while this language was written to conform to the requirements of the Clean Water Act, it is not consistent with the multimedia reporting requirements of CERCLA which apply to releases to air, land and water". RSPA agrees with EPA's statement and is proposing to change the provisions of § 171.17 to either make the discharge notification requirements applicable to all media or to remove the discharge notification requirements from the HMR. As an option, RSPA could include a reference to the notification requirements of CERCLA in the HMR. For purposes of this rule, the terms "release" and "environment" have the same meaning as specified by EPA in its definition of these terms in 40 CFR 302.3.

The RQs for certain hazardous substances which were previously incorporated into the Table (HM-145B; 45 FR 34560 and 45 FR 74640) have been adjusted by EPA. RSPA proposes to change the RQ for each of these hazardous substances to correspond to the adjusted final RQ set by EPA.

In its final rule, EPA adjusted the RQs of 340 hazardous substances, including 21 waste streams. However, EPA's rule included many hazardous substances from Section 311 of the CWA whose "adjusted" final RQ is the same as its statutory RQ. These substances were previously incorporated into the Table under HM-145B. Therefore, the number of hazardous substances addressed in this rule is less than 340. These hazardous substances would be listed in the Table by name followed by the RQ and identified in column 1 of the Table as a hazardous substance by the symbol "E". The proposed changes in the Table affect certain sections in Part 173.

Unlisted Hazardous Substances

A. ICRE Wastes

Under the Resource, Conservation and Recovery Act (RCRA), ICRE wastes are wastes which are not specifically

listed by the EPA as hazardous wastes, but which possess characteristics of ignitability, corrosivity, reactivity or extraction procedure (EP) toxicity (ICRE). These characteristics are defined by EPA in 40 CFR 261.20-261.24. In the EPA final rule of April 4, 1985 [50 FR 13456], EPA states that releases of non-designated wastes which exhibit ICR characteristics are reportable under section 103(a) of CERCLA. The RQ for non-designated substances which are ICR wastes is 100 pounds. That rule states: "Substances exhibiting the characteristic of extraction procedure (EP) toxicity are not at issue here, because the chemicals at which the EP toxicity test is aimed are all specifically designated as hazardous under section 302.4 of today's regulation." The RQs for wastes exhibiting the characteristic of EP toxicity are listed in the table at 40 CFR 302.4 and are keyed to the contaminant (hazardous substance) on which the characteristic of EP toxicity is based. According to the EPA, when a reportable quantity of any of these unlisted ICRE wastes is released (spilled), the release is reportable under CERCLA.

Section 102 of CERCLA authorizes EPA to designate hazardous substances over and above those designated by Congress in the statute, and to establish reportable quantities for them. Using this authority, EPA plans to designate about 500 new hazardous substances in the next five years. In addition, EPA proposes to add generic groups of materials to the hazardous substance list. These generic groups include those undesigned substances which exhibit a characteristic of ignitability, corrosivity or reactivity (ICR). ICR materials are discussed in EPA's Final Rule (50 FR 13460 April 4, 1985) and are derived from EPA's RCRA regulations found in 40 CFR 261.21-261.23. The characteristics which determine whether a material is an ICR material are the same as or similar to RSPA's definitions for the hazard classes of Flammable liquid, Combustible liquid, Flammable gas, Oxidizer, Corrosive material, Explosive A, Explosive B, Flammable solid, ORM-E and RSPA's criteria for forbidden materials.

Based on EPA's interpretation that ICRE wastes are reportable under CERCLA, RSPA proposes to take the following actions to include these substances in the HMR. First, RSPA proposes to amend the hazardous substance definition in § 171.8 to include ICR wastes (materials exhibiting an EP toxic characteristic are not included here because the constituents making them toxic are individually listed). This

will insure that ICR wastes are included as hazardous substances in the HMR. Secondly, RSPA proposes to include instructions in the introductory language to the Table which explain the procedure to follow when selecting the proper shipping name for ICR wastes. This is necessary because ICR wastes may or may not meet the definition of a DOT hazard class other than ORM-E. For those wastes the RSPA is proposing to require that the proper shipping name include in parenthesis the EPA ICR characteristic exhibited by the waste so that the EPA ICR characteristic which makes the waste hazardous is identified. RSPA also proposes to amend the shipping paper requirements to require the applicable ICR characteristic to be included as part of the proper shipping name. Further, RSPA proposes to amend the marking requirements to require the applicable ICR characteristic to be displayed on packagings of 110 gallons or less.

B. ICRE substances

EPA also proposed in a NPRM issued on April 4, 1985 [50 FR 13514], a 100-pound RQ for releases of non-designated substances which exhibit the RCRA characteristics of ICR. Substances exhibiting the characteristic of EP toxicity are not at issue because the substances at which the EP toxicity test are aimed are all designated by EPA. Under the EPA proposal, any spill of an ICRE substance (whether it is a waste or not) is reportable under CERCLA if the material (1) exhibits an ICRE characteristic and (2) is spilled in a reportable quantity. This proposal has not been finalized by the EPA, and RSPA does not intend to take any action on these substances until the EPA proposal becomes final. If the EPA proposal becomes final for all ICRE substances, not just wastes, RSPA will propose to amend the HMR in the same manner as we are proposing for ICRE wastes. Both the definition and the introductory language to the Table for a hazardous substance would be amended to include ICRE substances. The RSPA seeks comments on suggested methods to follow when incorporating both ICRE wastes and ICRE substances into the HMR. Also the RSPA solicits comments on the problems shippers and carriers foresee should these materials be incorporated into the HMR.

When activities designating CERCLA hazardous substances are complete, there will be approximately 1400 specifically named substances (approximately 900 designated by the statute and 500 to be designated by EPA within the next five years). This estimate may be conservative because it

does not include any non-designated substance which exhibits an ICR characteristic (materials exhibiting an EP toxic characteristic are not included here because the constituents making them toxic are individually listed). Therefore, it appears that within five years almost all of the hazardous materials regulated by DOT will also be hazardous substances, since the Table presently contains only about 2400 proper shipping names, including both the specific and generic (n.o.s.) entries. The significance associated with the use of a special notation (the "E" in column 1 and the "RQ" in column 2) in the Table to identify hazardous substances for reporting purposes may be lost if virtually all of the hazardous materials are subject to the notification requirements at various RQs. In addition, RSPA may not be able to identify and class many of these materials in the Table. ICR substances could fall within as many as eight different hazard classes other than ORM-E. A similar problem exists with the incorporation of RCRA waste streams which is proposed in this NPRM. If RSPA is unable to class a material, it may be inappropriate to list it in the Table. There is certainly the argument to be made that adding numerous substances in the ORM-E class to the listing of acutely hazardous materials in the hazardous materials Table reduces the level of safety by diluting the Table to include a large number of substances that do not pose special transportation hazards. This could reduce shippers' and carriers' attention to safety by imposing comparable restrictions on substances which differ significantly in hazards.

RSPA solicits comments on the desirability of using some other system of identifying hazardous substances other than the one which presently exists and is proposed in this notice (i.e., listing a material in the Table with special notation as noted above). Other options might include establishing a separate list of all hazardous substances with their RQs. Such a list would not contain either a column for the hazard class (which, in many cases RSPA is unable to assign) or specific packaging requirements. Another option might be to simply require that all spills of chemical materials be reported, in effect consolidating all of the existing and possible reporting requirements for spills into a single, simple rule for shippers and carriers.

RSPA solicits comments on the desirability of removing the requirement in the HMR to report spills of hazardous substances. This is presently contained

in § 171.17. Section 103 of CERCLA contains explicit reporting requirements for discharges of hazardous substances. Also, both the U.S. Coast Guard and EPA have rules which require reporting of discharges of these same materials (See 33 CFR 153.201 and 40 CFR 117.21 and 302.6). Referencing the existence of these reporting requirements in the HMR might be better than having another reporting requirement. RSPA believes the penalties under EPA's CERCLA rules and Coast Guard's CWA rules for failure to report a hazardous substance discharge are adequate and there may be no need to require further reporting for hazardous substance discharges in the HMR. An example of how this could be done may be found in Note 2 at the end of § 171.3.

III. Review by Sections

Section 171.8. The definition of a hazardous substance would be revised to include wastes which exhibit a RCRA characteristic of ICR.

Section 171.17. Paragraph (a) would be revised to expand the "environment" (i.e., air, land and water) into which a discharge may occur and for which a discharge notification is required. Other options include removing this requirement from the HMR or referencing the CERCLA reporting requirements in the HMR.

Section 172.101. Paragraph (c)(14) would be added to cover specific waste streams that have been designated as hazardous substances by EPA and whose hazard class assignment may change from shipment to shipment because of variations in the composition of the waste stream. RSPA proposes to add 21 waste streams to the Table, all classed as ORM-E. These waste streams would not be listed by their EPA names. They would be added as follows: (1) Those waste streams whose hazard characteristics meet the definition of the ORM-E hazard class only would be assigned the proper shipping name "Hazardous waste, liquid or solid, n.o.s.", as appropriate. Included as part of the proper shipping name would be the EPA hazardous waste number (RCRA waste number) assigned to the waste stream (e.g., F003). Thus, a waste stream identified by EPA as "F003" containing the following spent non-halogenated solvents and the still bottoms from the recovery of these solvents: (a) Xylene, (b) Acetone, (c) Ethyl acetate, (d) Ethylbenzene, (e) Ethyl ether, (f) Methyl isobutyl ketone, (g) n-Butyl alcohol, (h) Cyclohexanone, (i) Methanol, when classed as ORM-E and shipped in liquid form in a reportable quantity, would be described as "RQ,

Hazardous waste, liquid, n.o.s. (F003) ORM-E, NA9189", (2) those waste streams having hazard characteristics that meet the definition of a hazard class other than ORM-E would be classed accordingly and assigned the proper shipping name (either a specific name or an n.o.s. entry) that most appropriately describes the waste stream. The EPA hazardous waste number assigned to the waste stream "F003" that also meets the definition of a flammable liquid would be classed as a flammable liquid. This waste stream when shipped in a reportable quantity would be described as "RQ, Waste flammable liquid, n.o.s. (F003), Flammable liquid, UN1993". If RSPA were to adopt the EPA descriptions, there would be several DOT proper shipping names which would contain more than ten words.

Paragraph (c)(15) would be added to cover hazardous substances which are waste materials that are not specifically listed under RCRA and exhibit an EPA characteristic of ignitibility, corrosivity or reactivity (ICR). Because of variations in the composition of the wastes being shipped, selection of the proper shipping name and assignment of a hazard class to these wastes may change from shipment to shipment depending on their hazards. For this reason, RSPA proposes to require that the proper shipping name include in parenthesis the EPA ICR characteristic which makes the waste hazardous under RCRA. Selection of a proper shipping name for these wastes, when shipped in a reportable quantity, would be as follows: (1) Those wastes whose hazard characteristics only satisfy the definition of the ORM-E hazard class would be assigned the proper shipping name "Hazardous waste, liquid or solid, n.o.s.", as appropriate, followed by the specific EPA ICR characteristic in parenthesis; (2) those wastes having hazard characteristics that meet the definition of a hazard class other than ORM-E and also have an EPA ICR characteristic would be assigned the proper shipping name (either a specific name or an n.o.s. entry) that most accurately describes the waste; for example, if a waste meets the definition of a flammable liquid and the waste material is not specifically listed in the Table by name, the proper shipping name would be "Waste flammable liquid, n.o.s. (EPA ignitibility)"; (3) those wastes which are specifically listed by name in the Table and exhibit an EPA ICR characteristic would be assigned the proper shipping name specifically listed for that waste. For example, the proper shipping name for Methyl acetate which is a waste

would be "Waste methyl acetate (EPA ignitibility)".

Hazardous Materials Table. The Table would be amended to add 31 hazardous substances designated by the EPA under 40 CFR Part 302. These substances are not presently subject to the HMR unless they are also hazardous wastes shipped on a Uniform Hazardous Waste Manifest. The EPA has assigned an unqualified "final RQ" to these hazardous substances.

The Table would also be amended to identify hazardous materials which are presently regulated that have been designated by the EPA as hazardous substances. These materials make up two major categories. One category would include materials that are now listed by name in the Table and the other would include materials not now identified in the Table by name but which are now regulated under the n.o.s. listings in the Table. Of the 111 materials being added by name, 51 are presently regulated under a n.o.s. listing, such as methyl isobutyl ketone which is regulated as a flammable liquid under the proper shipping name of "Flammable liquid, n.o.s." or under an end use listing, such as (densensitized) nitroglycerin which is regulated as a class A explosive under the proper shipping name of "High explosive, liquid". The total number of materials that would be identified as hazardous substances under this proposal would be 189. These are listed and discussed in this preamble individually or in groups to identify the criteria used for designating each as a hazardous material.

The Table would be amended to change the RQ of several entries based on EPA's adjustment of the RQ of 45 hazardous substances that were designated previously under section 311 of the CWA. The RQ for 15 hazardous substances was raised and the RQ for 30 hazardous substances was lowered.

The Table would be amended to add the "E" designator and RQ to certain mixtures that contain one or more hazardous substances to identify the hazardous substances(s) present in the mixture. The "E" designator and RQ level would also be added to certain n.o.s. descriptions for materials that may contain a hazardous substance.

Finally, the Table would be amended to make corrections to certain listings to align them with the corresponding international description or to indicate that the description is not an exact match with a similar international description. These corrections would be made in conjunction with the adjustments being made to various materials in the Table that are affected

by the EPA rule on hazardous substances.

Although there may appear to be a discrepancy between the number of newly identified materials in this proposal and the number of materials in the EPA list of hazardous substances, the materials in this proposal are those covered in the EPA list. The difference in the number of materials results from the necessity to identify in the Table the different hazard classes, forms, mixtures or solutions of a material for proper regulation.

Hazard Class Determinations. The additions to the Table to accommodate hazardous substances would consist of 31 materials classed as ORM-E, 51 materials that are now regulated under n.o.s. listings which would be identified by name, and 29 materials that would be classed as ORM-A. Provisions are also made in the Table to identify 51 materials that are currently being regulated by name in the HMR. EPA has designated these materials as hazardous substances.

Other Regulated Materials—ORM-A. Twenty-nine hazardous substances would be classed as ORM-A, based on the chemical, physical and other comparable properties of the materials. The properties of the materials are such that each material can cause extreme annoyance or discomfort to passengers and crew of a transport vehicle in the event of leakage during transportation. Three of these materials, each marked with an asterisk, would be classed as combustible liquids when packaged in containers having a capacity exceeding 110 gallons. The ORM-A materials are listed below:

Acrylamide
 *Benzylidene chloride
 Bis(2-chloroethoxy) methane
 Bromoform
 4-Bromophenyl phenyl ether
 p-Chloroaniline
 4-Chloro-m-cresol
 Chlorodibromomethane
 2-Chlorophenol
 4-Chlorophenyl phenyl ether
 Dibromomethane
 *m-Dichlorobenzene
 Dichlorobromomethane
 2,4-Dichlorophenol
 2,6-Dichlorophenol
 Dimethoate
 Dimethyl phthalate
 4,6-Dinitro-o-cyclohexylphenol
 1,1-Dimethyl-2-phenylethanamine
 Hexachloropropene
 *Isophorone
 Malononitrile
 Methapyrilene
 1,4-Naphthoquinone
 Strontium sulfide
 1,2,4,5-Tetrachlorobenzene
 2,3,4,6-Tetrachlorophenol

1,2,4-Trichlorobenzene 2,4-Xylenol

Note that dinitrocyclohexylphenol is presently listed in the Table, but only the 4,6-dinitro-o-cyclohexylphenol isomer has been designated by EPA as a hazardous substance. Also, xylenol was previously designated as a hazardous substance (RQ-1000/454) by EPA, however, EPA has designated 2,4-dimethylphenol as a hazardous substance with a "final RQ" of 100/45.4. Another name for 2,4-dimethylphenol is 2,4-xylenol, which is a xylenol.

Other Regulated Materials—ORM-E. Thirty-one materials would be classed as ORM-E. The materials include 10 specific substances and twenty-one waste streams. Their classification is based on the EPA designation of certain materials as hazardous substances with an unqualified "Final RQ" on April 5, 1985 [50 FR 13456], and the fact that according to our tentative evaluation they do not meet the defining criteria of any other hazard class. These ORM-E materials are listed below:

Butyl benzyl phthalate
2-Chloronaphthalene
Diethyl phthalate
Di-n-octyl phthalate
Maleic hydrazide
N-Nitrosodiphenylamine
Pronamide
Resperine
Silver
Trichlorofluoromethane
EPA RCRA waste (stream) numbers F003, F007, F008, F009, F010, F011, F012, K014, K023, K024, K036, K037, K044, K045, K047, K071, K083, K093, K094, K103, K106.

Each waste stream would be described as Hazardous waste, liquid or solid, n.o.s. followed by a specific RCRA waste number and the assigned RQ. Because of various components, fractions, concentrations and properties, the hazards associated with a particular waste stream may be greater than anticipated. Each waste stream should be examined carefully. Comments concerning the hazards of these waste streams are welcome. Recommendations for hazard class assignment with supporting data are encouraged.

The 51 materials now described by the various generic n.o.s. descriptions would be identified within the Flammable liquid, Combustible liquid, Poison A, Poison B and Corrosive material hazard classes as follows:

Flammable Liquids/Combustible Liquids. Nine hazardous substances would be identified as Flammable liquids and six as Combustible liquids. Closed cup flash points were obtained for these substances from the literature. Three of the combustible liquids, each marked with an asterisk, would be

classed as ORM-A when packaged in containers of 110 gallons or less. These liquids and their respective closed cup flash point are listed below:

Material	Flash point (°F.) CC.
Acetophenone.....	180
*Benzylidene chloride.....	198
2-Chloroethyl vinyl ether.....	61
Cyclohexanone.....	116
*m-Dichlorobenzene.....	146
1, 1-Dichloroethane.....	22
Ethyl methacrylate.....	60
*Isophorone.....	184
Isopropylbenzene.....	115
Methacrylonitrile.....	54
Methyl isobutyl ketone.....	56
2-Nitropropane.....	82
1,3-Pentadiene.....	-20
2-Picoline.....	79
Propionitrile.....	43

Poison B. Thirty-two hazardous substances would be identified as poison B materials. Data on oral toxicity using rats (oral-rat LD₅₀: mg/kg) and toxicity by skin absorption using rabbits (skin-rat LD₅₀: mg/kg) was obtained from the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS) (1981-82 Edition) for 27 compounds. Soluble cyanide salts not identified by name would be covered by two existing but modified cyanide descriptions and a new cyanide description that specifically addresses inorganic cyanides, n.o.s. Toxicity data for specific salts of dinitro-o-cresol are listed in the RTECS. No data is available for the remaining three hazardous substances. However, based on chemical and physical properties and the toxicity of similar compounds, it is the RSPA's opinion that these hazardous substances meet the criteria for this hazard class. These Poison B materials are listed below:

Material	Toxicity (LD ₅₀ : mg/kg)	
	Oral-rat	Skin-rat
1-Acetyl-2-thiourea.....	50.0	
Aldicarb.....	0.9	200
5-(Aminomethyl)-3-isoxazolol.....	45.0	
4-Aminopyridine.....	20.0	
Ammonium vanadate.....	18.0	
Chloroacetaldehyde.....	23.0	67
2-Chlorophenyl thiourea.....	4.6	
3-Chloropropionitrile.....	50.0	
Cyanides (soluble cyanide salts), not elsewhere specified.....		
O,O-Diethyl S-methyl dithiophosphate.....		
Diethyl-p-nitrophenyl phosphate.....	1.8	
O,O-Diethyl O-pyrazinylphosphorothioate.....	3.5	
Disopropyl fluorophosphate.....	6.0	
4,6-Dinitro-o-cresol.....	10.0	
4,6-Dinitro-o-cresol salt.....		
Dinoseb.....	25.0	80
2,4-Dithiobutiret.....	5.0	
Endosulfan sulfate.....		
Endothal.....	38.0	
Endrin aldehyde.....		
Famphur.....	35.0	
Fluoroacetamide.....	8.0	
Isodrin.....	7.0	

Material	Toxicity (LD ₅₀ : mg/kg)	
	Oral-rat	Skin-rat
Methomyl.....	17.0	
Naphthylthiourea (alpha).....	6.0	
Octamethylpyrophosphoramide.....	5.0	
Osmium tetroxide.....	14.0	
N-Phenylthiourea.....	3.0	
Potassium silver cyanide.....	21.0	39
Thiofanox.....	8.5	
Thiosemicarbazide.....	0.9	
Warfarin.....	3.0	

Corrosive material. Three hazardous substances would be identified as corrosive materials. This is based on the chemical and physical properties of the compounds and the fact that several similar type compounds are classed as corrosive materials. These corrosive materials are listed below:

Benzene sulfonyl chloride
1,4-Dichloro-2-butene
Phthalic anhydride

Poison A. One hazardous substance, carbonyl fluoride, would be classed as poison A. Carbonyl fluoride is a toxic, nonflammable, colorless, irritating gas with a pungent odor. Inhalation toxicity data listed in the RTECS are as follows: inhalation-rat LC₅₀: 360 ppm/1 hr. Using this data, the value in milligrams per liter is calculated to be LC₅₀: 0.97 mg/L.

Proposed reportable quantity changes for certain hazardous substances. Based on action taken by EPA, the RQ of the following entries would be changed (raised or lowered) as indicated:

Entry	Present	Change
Acetic acid solution.....	RQ-1000/454.....	RQ-5000/2270
Acetic acid, glacial.....	RQ-1000/454.....	RQ-5000/2270
Acetic anhydride.....	RQ-1000/454.....	RQ-5000/2270
Ammonium fluoride.....	RQ-5000/2270.....	RQ-100/45.4
Ammonium sulfide solution.....	RQ-5000/2270.....	RQ-100/45.4
Amyl acetate.....	RQ-1000/454.....	RQ-5000/2270
Aniline.....	RQ-1000/454.....	RQ-5000/2270
Antimony potassium tartrate, solid.....	RQ-1000/454.....	RQ-100/45.4
Antimony trioxide.....	RQ-5000/2270.....	RQ-1000/454
Benzonitrile.....	RQ-1000/454.....	RQ-5000/2270
n-Butyl phthalate.....	RQ-100/45.4.....	RQ-10/4.54
Calcium carbide.....	RQ-5000/2270.....	RQ-10/4.54
Calcium hypochlorite, hydrated.....	RQ-100/45.4.....	RQ-10/4.54
Calcium hypochlorite, mixture.....	RQ-100/45.4.....	RQ-10/4.54
Dichlobenil.....	RQ-1000/454.....	RQ-100/45.4
1,1-Dichloropropane.....	RQ-5000/2270.....	RQ-1000/454
1,3-Dichloropropane.....	RQ-5000/2270.....	RQ-1000/454
Dinitrobenzene.....	RQ-1000/454.....	RQ-100/45.4
Dinitrophenol solution.....	RQ-1000/454.....	RQ-10/4.54
Ethylenediamine.....	RQ-1000/454.....	RQ-5000/2270
Furfural.....	RQ-1000/454.....	RQ-5000/2270
Hydrofluoric acid solution.....	RQ-5000/2270.....	RQ-100/45.4
Hydrogen fluoride.....	RQ-5000/2270.....	RQ-10/4.54
Kelthane.....	RQ-5000/2270.....	RQ-10/4.54
Malathion.....	RQ-10/4.54.....	RQ-100/45.4
Mercaptodimethyl.....	RQ-100/45.4.....	RQ-10/4.54
Methylamine, anhydrous.....	RQ-1000/454.....	RQ-10/4.54
Methylamine, aqueous solution.....	RQ-1000/454.....	RQ-100/45.4
Methyl methacrylate monomer, inhibited.....	RQ-5000/2270.....	RQ-1000/454
Methyl methacrylate monomer, uninhibited.....	RQ-5000/2270.....	RQ-1000/454
Mevinphos.....	RQ-1/0.454.....	RQ-10/4.54

Entry	Present	Change
Mevinphos mixture, dry	RQ-10/454	RQ-10/4.54
Mevinphos mixture, liquid	RQ-10/454	RQ-10/4.54
Nitrogen dioxide, liquefied	RQ-1000/454	RQ-10/4.54
Nitrogen tetroxide, liquefied	RQ-1000/454	RQ-10/4.54
Nitrophenol	RQ-1000/454	RQ-100/45.4
Phosgene	RQ-5000/2270	RQ-10/4.54
Phosphorus oxychloride	RQ-5000/2270	RQ-1000/454
Phosphorus trichloride	RQ-5000/2270	RQ-1000/454
Propylene dichloride (1,2-Dichloropropane)	RQ-5000/2270	RQ-100/45.4
Propylene oxide	RQ-1000/454	RQ-100/45.4
Pyrethrins	RQ-1000/454	RQ-5000/2270
Quinoline	RQ-1000/454	RQ-5000/2270
Resorcinol	RQ-1000/454	RQ-10/4.54
Sodium, metal dispersion	RQ-1000/454	RQ-10/4.54
Sodium, metal liquid alloy	RQ-1000/454	RQ-10/4.54
Sodium fluoride, solid	RQ-5000/2270	RQ-1000/454
Sodium fluoride, solution	RQ-5000/2270	RQ-1000/454
2,4,5-Trichlorophenoxyacetic acid	RQ-100/45.4	RQ-1000/454
2,4,5-Trichlorophenoxyacetic acid amine	RQ-100/45.4	RQ-5000/2270
2,4,5-Trichlorophenoxyacetic acid ester or salt	RQ-100/45.4	RQ-1000/454
Vinyl acetate	RQ-1000/454	RQ-5000/2270
Zirconium potassium fluoride	RQ-5000/2270	RQ-1000/454

The above list of entries in the Table whose RQ would be changed is not all inclusive. For example, no attempt was made to list the potassium sodium alloys where these alloys are subject to the HMR as they apply to hazardous substances because sodium is a hazardous substance whose RQ was adjusted by EPA from RQ-1000/454 to RQ-10/4.54. Potassium is not a hazardous substance. No attempt was made to list mixtures, etc. However, the proposed changes for the entries not listed above should be obvious upon careful review of the proposed changes to the Table.

Some of the chemicals designated by EPA as hazardous substances are rather obscure. Very little information was available to help RSPA assess the hazards of these chemicals. With outside help, bits and pieces of information were obtained that allowed RSPA to assign a hazard class to all but one chemical . . . ethylenebis-(dithiocarbamic acid), CAS Registry No. 111-54-6, which has an EPA assigned RQ-5000/2270 and RCRA Waste Number U114. To the best of our knowledge, ethylenebis(dithiocarbamic acid) is a nonisolated intermediate produced *in situ* in the manufacture of certain pesticides (e.g., Maneb and Zineb). Comments concerning the hazards and hazard class assignment of ethylenebis(dithiocarbamic acid) are requested. Ethylenebis(dithiocarbamic acid) does not appear in the list of

proposed changes to the Table. If there is no new information concerning this material provided in the comments to this rule, RSPA proposes to class this material as an ORM-E.

The hazard class assigned to zinc bromide would be changed from ORM-E to corrosive material. Information received by RSPA indicates that zinc bromide in both solid form and aqueous solution is corrosive to skin. The existing entry for zinc bromide would be revised to cover the material when shipped in solid form. A new entry would be added to cover zinc bromide when shipped as a solution (i.e., zinc bromide, solution).

Section 172.203. Paragraph (c)(3) would be added to require that the applicable EPA ICR characteristic be included on the shipping paper as part of the proper shipping name.

Section 172.324. Paragraph (c) would be added to require that the proper shipping name, including the applicable ICR characteristic, be shown on each packaging having a rated capacity of 110 gallons or less.

Section 173.202. In conjunction with a proposed change in the Table to align a description with the international proper shipping name, the word sequence in "Sodium potassium alloy (liquid)" would be changed to "Potassium sodium alloy (liquid)". Accordingly, the title of the section and paragraph (a) would be revised.

Section 173.206. In conjunction with two proposed changes in the Table to align the descriptions with international proper shipping names, "Sodium, metallic" would be changed to "Sodium" and the description "Sodium potassium alloy (solid)" would be changed to "Potassium sodium alloy (solid)". For sodium, the title of the section and paragraphs (a), (a)(3), (a)(10), (b) and (c) would be revised accordingly. For potassium sodium alloy (solid), the title of the section and paragraphs (a) and (a)(10) would be revised accordingly.

Section 173.326. In conjunction with a proposed change in the Table to delete the entry for "Nitrogen peroxide, liquid" because it is not an international proper shipping name and it is a duplication of the entry for "Nitrogen tetroxide, liquid", the description in paragraph (a)(10) would be changed from "Nitrogen peroxide (tetroxide)" to "Nitrogen tetroxide".

Section 173.336. For the considerations stated in § 173.326 and the proposed revision of the entry "Nitrogen tetroxide, liquid" to "Nitrogen tetroxide, liquefied" and the entry "Nitrogen dioxide, liquid" to "Nitrogen dioxide, liquefied" the descriptions in

both the title of the section and paragraph (a) would be revised accordingly.

Section 173.347. In conjunction with the proposed change in the Table to align the description for "Aniline oil" with the international proper shipping name, the title of the section and paragraphs (a), (c)(1) and (d) would be changed to "Aniline".

Section 173.373. In conjunction with a proposed change in the Table to include the three isomers (ortho, meta and para) of nitroaniline in the description, the title of the section and paragraphs (a), (a)(4) and (a)(5) would be revised accordingly.

Section 172.655. In conjunction with a proposed change in the Table to align the description "Naphthalene or naphthalin" with the international proper shipping name, the title of the section and paragraphs (a), (b) and (c) would be changed to "Naphthalene, crude or refined."

IV. Administrative Notices

Executive Order 12291

The RSPA has determined that the effect of this proposed rule will not meet the criteria specified in section 1(b) of Executive Order 12291 and is, therefore, not a major rule. This is not a significant rule under DOT regulatory procedures [44 FR 11034] and requires neither a Regulatory Impact Analysis, nor an environmental impact statement under the National Environmental Policy Act [49 U.S.C. 4321 et seq.]. A regulatory evaluation is available for review in the Docket.

Impact on Small Entities

Based on limited information concerning the size and nature of the entities likely to be affected, I certify this rule will not, as promulgated, have a significant economic impact on a substantial number of small entities under criteria of the Regulatory Flexibility Act.

List of Subjects

49 CFR Part 171

Hazardous materials transportation, Definitions.

49 CFR Part 172

Hazardous materials transportation.

49 CFR Part 173

Hazardous materials transportation, Packaging and containers.

In consideration of the foregoing, Parts 171, 172 and 173 of Title 49, Code of Federal Regulations would be amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 would be revised to read as follows:

Authority: 49 U.S.C. 1802, 1803, 1804, 1808; 49 CFR Part 1.

2. In section 171.8 the definition for "Hazardous substance" would be revised as follows:

§ 171.8 Definitions and abbreviations.

"Hazardous substance", for the purposes of this subchapter, means a material, and its mixtures or solutions, that is (1) identified by the letter "E" in Column 1 of the Table to § 172.101 when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity (RQ). This definition does not apply to petroleum products that are lubricants or fuels; or to a mixture or solution containing a material identified by the letter "E" in Column 1 of the Table to § 172.101 if it is in a concentration less than that shown in the following table based on the reportable quantity (RQ) specified for the materials in Column 2 of the Table to § 172.101:

RQ pounds	RQ kilograms	Concentration by weight	
		Percent	PPM
5,000	2,270	10	100,000
1,000	454	2	20,000
100	45.4	0.2	2,000
10	4.54	0.02	200
1	0.45	0.002	20

or (2) An EPA unlisted hazardous waste, when offered in one package, or in one transport vehicle if not packaged, in a quantity of 100 pounds or more (i.e., RQ=100/45.4), which exhibits an EPA characteristic of Ignitability, Corrosivity, or Reactivity (ICR) (as defined at 40 CFR 261.21-261.23).

3. In § 171.17 the introductory text of paragraph (a) would be revised to read as follows:

§ 171.17 Hazardous substance discharge notification.

(a) When a hazardous substance is discharged into the environment in a reportable quantity from one package, or from a transport vehicle, aircraft, vessel or facility if not packaged, the person in charge of the transport vehicle, aircraft, vessel, or facility from which the hazardous substance is discharged shall, as soon as that person has knowledge of such discharge, notify directly, or indirectly through the carrier, the U.S. Coast Guard National Response Center at (toll free) 800-424-8802, or (toll

call) (202) 426-2675, and furnish to the official to whom the discharge notification is made:

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

4. The authority citation for Part 172 would be revised to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808; 49 CFR Part 1.

5. In § 172.101, the second sentence in the introductory text of paragraph (c) would be revised to reference paragraphs (c)(14) and (c)(15) of this section. Also, paragraphs (c)(14) and (c)(15) would be added and the Hazardous Materials Table would be amended by adding, revising and removing certain entries to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

(c) * * * Modification of a proper shipping name may otherwise be required or authorized by this section (see paragraphs (b)(4), (c)(10), (c)(11), (c)(12), (c)(13), (c)(14) and (c)(15) of this section).

(14) The proper shipping name for a waste stream classed as ORM-E is "Hazardous waste, liquid or solid, n.o.s." followed by the EPA hazardous (RCRA) waste number assigned to that waste stream. For example, the proper shipping name for the EPA waste stream described as "spent carbon from the treatment of wastewater containing explosives" with the assigned EPA (RCRA) hazardous waste number "K045" which is classed as ORM-E and shipped in solid form is "Hazardous waste, solid, n.o.s. (K045)". The identification number is "NA9189". The proper shipping name for a waste stream that meets the definition of a hazard class other than ORM-E must be derived from paragraph (c)(13) of this section and must include the EPA hazardous (RCRA) waste number assigned to that waste stream. For example, the proper shipping name for the EPA waste stream described as "the following spent non-halogenated solvents and the still bottoms from the recovery of these solvents: (a) Xylene, (b) acetone, (c) ethyl acetate, (d) ethylbenzene, (e) ethyl ether, (f) methyl isobutyl ketone, (g) n-butyl alcohol, (h) cyclohexane, (i) methanol" with the assigned EPA hazardous (RCRA) waste number "F003" that meets the definition of the flammable liquid hazard class is

"Waste flammable liquid, n.o.s. (F003)" with identification number "UN1993".

(15) Selection of the proper shipping name for a waste which is an unlisted hazardous substance that exhibits an EPA characteristic of Ignitability, Corrosivity or Reactivity (ICR) depends on the hazard class of the waste and whether the waste is shipped in quantities equal to or greater than the reportable quantity (100 pounds). When the waste satisfies a hazard class definition other than ORM-E, the proper shipping name used should be the generic entry for that class unless the waste is specifically identified by a proper shipping name in the Table. If the waste is specifically listed in the Table and it exhibits an EPA ICR characteristic, the proper shipping name specifically listed should be used, followed by the specific EPA ICR characteristic in parenthesis. For example, if the waste is Methyl acetate, the proper shipping name would be "Waste methyl acetate (EPA ignitability)". If the waste is a hazardous substance, the letter "RQ" must be entered on the shipping paper either before or after the basic description required by § 172.202. In this case, the basic description would be "RQ Waste methyl acetate (EPA ignitability). Flammable liquid, UN1231".

If the waste is not specifically named in the Table, the generic proper shipping name for the hazard class assigned to the waste should be used, followed by the specific ICR characteristic in parenthesis. For example, if the waste is a liquid and meets the definition of the corrosive material hazard class, the proper shipping name would be "Waste corrosive liquid, n.o.s. (EPA corrosivity)". If the waste is a hazardous substance, the letters "RQ" must be entered on the shipping paper either before or after the basic description required by § 172.202. For example, in this case the basic description would be: "RQ Waste corrosive liquid, n.o.s. (EPA corrosivity). Corrosive material, UN1760".

If the waste only satisfies the ORM-E hazard class, and it exhibits an EPA ICR characteristic, the proper shipping name would be "Waste hazardous substance, liquid or solid, n.o.s." followed by the specific EPA characteristic in parenthesis, as appropriate. If the waste is a hazardous substance, the letters "RQ" must be entered on the shipping paper either before or after the basic description required by § 172.202. For example, for a liquid exhibiting the EPA ICR characteristic of corrosivity, the basic description would be "RQ Waste hazardous substance, liquid, n.o.s. (EPA corrosivity), ORM-E, NA9188".

§172.101 Hazardous Materials Table

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Labels required (if not excepted)	(5) Packaging		(6) Maximum net quantity ^a in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
	*** DELETIONS ***											
	<i>Ammonium picrate, dry. See High explosive</i> <i>Ammonium picrate, wet, with 10% or more water, over 16 ounces in one outside packaging. See High explosive</i> <i>Aniline oil drum, empty See 173.347(d)</i>	Poison B							1,2	1	Do not accept unless returnable package notice is on drum and the instructions thereon have been carried out	
+E	Aniline oil, liquid (RQ-1000/454) Butyl alcohol	Poison B Flammable liquid	UN1647 NA1120	Poison Flammable liquid	None 173.118	173.347 173.125	Forbidden 1 quart	55 gallons 10 gallons	1,2 1,2	1,2 1	Stow away from oxidizing materials and acids	
E	Dinitrobenzene, solid, or Dinitrobenzol, solid (RQ-1000/454) Methanol. See Methyl alcohol Methyl alcohol	Poison B Flammable liquid	UN1697 UN1230	Poison Flammable liquid	173.384 173.118	173.371 173.119	50 pounds 1 quart	200 pounds 10 gallons	1,2 1,2	1,2 1		
EA W	Naphthalene or Naphthalin (RQ-5000/2270) p-Nitroaniline. See Nitroaniline	ORM-A	UN1934	None	173.505	173.656	25 pounds	300 pounds	1,2	1,2	Segregation same as for flammable solids	
+	Nitroaniline	Poison B	UN1681	Poison	173.384	173.373	50 pounds	200 pounds	1,2	1,2		
E	Nitrogen peroxide, liquid (RQ-1000/454)	Poison A	NA1067	Poison gas and Oxidizer	None	173.338	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gas. Stow away from organic materials	
	<i>Nitroglycerin, liquid, desensitized. See High explosive, liquid</i>											
E	Sodium, metal or metallic (RQ-1000/454)	Flammable solid	UN1428	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet	
E	Sodium potassium alloy (liquid) (RQ-1000/454)	Flammable solid	UN1422	Flammable solid and Dangerous when wet	None	173.202	Forbidden	1 pound	1,2	5	Under deck stowage must be readily accessible. Segregation same as for flammable solid labeled Dangerous When Wet	
E	Sodium potassium alloy (solid) (RQ-1000/454)	Flammable solid	UN1422	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Under deck stowage must be readily accessible. Segregation same as for flammable solids labeled Dangerous When Wet	
E	2,4,5-T amine, ester, or salt. See 2,4,5-Trichlorophenoxyacetic acid, amine, ester, or salt											
E	2,4,5-Trichlorophenoxyacetic acid amine, ester, or salt (RQ-100/45.4)	ORM-E	NA2765	None	None	173.510	No limit	No limit	1,2	1,2		
E	Zinc chloride, solid (RQ-5000/2270)	ORM-E	UN2931	None	None	173.510	No limit	No limit	1,2	1,2		
	*** REVISIONS ***											
E	Acetic acid, glacial (RQ-5000/2270)	Corrosive material	UN2789	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Stow separate from nitric acid or oxidizing materials. Segregation same as for flammable liquids	
E	Acetic acid solution (RQ-5000/2270)	Corrosive material	UN2790	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Stow separate from nitric acid or oxidizing materials	
E	Acetic anhydride (RQ-5000/2270)	Corrosive material	UN1715	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2		
E	Acetone (RQ-5000/2270)	Flammable liquid	UN1090	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4		
E	Acetonitrile (RQ-5000/2270)	Flammable liquid	NA1648	Flammable liquid	173.118	173.119	1 quart	10 gallons	1	4	Shade from radiant heat	
E	Acrylic acid (RQ-5000/2270)	Corrosive material	UN2218	Corrosive	173.244	173.245	1 quart	5 pints	1	1		
E	Aluminum phosphide (RQ-100/45.4)	Flammable solid	UN1897	Flammable solid and Dangerous when wet	None	173.154	Forbidden	25 pounds	1,2	1,2	Stow away from acids and oxidizing materials	
EA	Ammonium fluoride (RQ-100/45.4)	ORM-B	UN2505	None	173.505	173.800	25 pounds	100 pounds	1,2	1,2		
E	Ammonium picrate, wet (with 10% or more water, not exceeding 16 ounces in one outside packaging) (RQ-100/45.4)	Flammable solid	UN1810	Flammable solid	173.192		1 pound	1 pound	1	4	Stow away from heavy metals and their compounds	
E	Ammonium sulfide solution (RQ-100/45.4)	Flammable liquid	UN2683	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2		
E	Amyl acetate (RQ-5000/2270)	Flammable liquid	UN1104	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2		
EA	Antimony potassium tartrate, solid (RQ-100/45.4)	ORM-A	UN1551	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	Antimony trioxide (RQ-100/45.4)	ORM-E	NA9201	None	None	173.510	No limit	No limit	1,2	1,2		
E	Benzenethiol. See Phenyl mercaptan											
E	Benzonitrile (RQ-5000/2270)	Combustible liquid	UN2224	None	173.118a	None	No limit	No limit	1,2	1,2		
E	Bromoacetone liquid (RQ-1000/454)	Poison A	UN1569	Poison gas	None	173.329	Forbidden	Forbidden	1	5	Segregation same as for flammable liquids	
E	Brucine, solid (dimethoxy strychnine) (RQ-100/45.4)	Poison B	UN1570	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
E	n-Butyl phthalate (<i>Di-n-butyl phthalate</i>) (RQ-10/4.54)	ORM-E	NA8006	None	None	173.510	No limit	No limit	1,2	1,2		
E	Calcium carbide (RQ-10/4.54)	Flammable solid	UN1402	Flammable solid and Dangerous when wet	None	173.178	Forbidden	25 pounds	1,2	1,2	Keep dry. Stow away from copper, its alloys, and salts	
E	Calcium hypochlorite, hydrated (minimum 3.5% but not more than 10% water, and containing more than 39% available chlorine) (RQ-10/4.54)	Oxidizer	UN2880	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2		
E	Calcium hypochlorite mixture, dry (containing more than 39% available chlorine) (RQ-10/4.54)	Oxidizer	UN1748	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	Keep cool and dry	
E	Carbonyl chloride. See Phosgene											
E	Copper cyanide (RQ-10/4.54)	Poison B	UN1587	Poison	173.370	173.370	25 pounds	100 pounds	1,2	1,2	Stow away from acids	
E	Cumene hydroperoxide, technically pure. See Cumene hydroperoxide.											
E	Cumene hydroperoxide (1-Methyl-1-phenylethyl-hydroperoxide) (RQ-10/4.54)	Organic peroxide	UN2118	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4		
E	Cyanide or cyanide mixture, dry (RQ-10/4.54)	Poison B	NA1588	Poison	173.384	173.370	25 pounds	200 pounds	1,2	1,2	Keep dry. Stow away from acids	
E	Cyanide solution (RQ-10/4.54)	Poison B	UN1935	Poison	173.345	173.352	1 quart	55 gallons	1,2	1,2	Stow away from acids	
E	Cyanogen bromide (RQ-100/4.54)	Poison B	UN1889	Poison	None	173.379	Forbidden	25 pounds	1	5	Shade from radiant heat. Segregation same as for corrosive materials	
E	Cyanogen, liquefied (RQ-100/4.54)	Poison A	UN1026	Poison gas and Flammable gas	None	173.328	Forbidden	Forbidden	1	5	Segregation same as for flammable gases	
EA	DDT or Dichlorodiphenyltrichloroethane (1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane) (RQ-10/4.54)	ORM-A	NA2761	None	173.505	173.510	No limit	No limit	1,2	1,2		
EA	2,4-D ester or salt. See 2,4-Dichlorophenoxyacetic acid ester or salt											
E	Dichlobenil (RQ-100/4.54)	ORM-E	NA2768	None	None	173.510	No limit	No limit	1,2	1,2		
EA	p-Dichlorobenzene (RQ-100/4.54)	ORM-A	UN1592	None	173.505	173.510	No limit	No limit	1,2	1,2		
EA	o-Dichlorobenzene (in containers of 110 gallons or less) (RQ-100/4.54)	ORM-A	UN1591	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270)	Nonflammable gas	UN1028	Nonflammable gas	173.308	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2		
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270) and chlorodifluoromethane (R-22) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270) and dichlorotetrafluoroethane (R-114) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270) and trichlorofluoromethane (R-11) (RQ-5000/2270) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270) and trichlorotrifluoroethane (R-113) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270), trichlorofluoromethane (R-11) (RQ-5000/2270) and chlorodifluoromethane (R-22) mixture. See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichlorodifluoromethane (R-12) (RQ-5000/2270) and difluoroethane mixture (constant boiling mixture) (R-500). See Refrigerant gas, n.o.s. or Dispersant gas, n.o.s.											
E	Dichloroisopropyl ether (bis(2-chloroisopropyl)ether) (RQ-1000/4.54)	Corrosive material	UN2490	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2		
EA	Dichloromethane (methylene chloride) (RQ-1000/4.54)	ORM-A	UN1593	None	173.505	173.505	10 gallons	55 gallons	1,2	1,2		
E	2,4-Dichlorophenoxyacetic acid ester or salt (RQ-100/4.54)	ORM-E	NA2765	None	None	173.510	No limit	No limit	1,2	1,2		
E	1,2-Dichloropropane. See Propylene dichloride											
E	Dinitrobenzene solution (RQ-100/4.54)	Poison B	UN1597	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2		
E	Dinitrophenol solution (RQ-10/4.54)	Poison B	UN1589	Poison	173.345	173.382	1 quart	65 pounds	1,2	1,2	Stow away from heavy metals and their compounds. If flash point is 141 deg F or less segregation same as for flammable liquids	
E	Diphosgene. See Phosgene											
E	Dispersant gas, n.o.s. See Refrigerant gas, n.o.s.											
E	Endosulfan (including alpha and beta isomers) (RQ-10/4.54)	Poison B	NA2761	Poison	173.364	173.365	1 pound	10 pounds	1,2	1,2	If stowed under deck, must be stowed in a recoverable location	

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
E	Endosulfan mixture, liquid (including alpha and beta isomers) (RQ-10/4.54)	Poison B	NA2781	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
E	Ethyl acetate (RQ-5000/2270)	Flammable liquid	UN1173	Flammable liquid	173.118	173.110	1 quart	10 gallons	1.2	1		
E	Ethyl acrylate, inhibited (RQ-5000/2270)	Flammable liquid	UN1917	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	Ethylenediamine (RQ-5000/2270)	Corrosive material	UN1804	Corrosive	173.244	173.245	1 quart	1 quart	1.2	1.2		
E	Ethylencimine, inhibited (RQ-10/4.54)	Flammable liquid	UN1185	Flammable liquid and Poison	None	173.139	Forbidden	5 pints	1.2	1		
E	Ethyl ether (RQ-100/4.54)	Flammable liquid	UN1155	Flammable liquid	None	173.119	Forbidden	10 gallons	1.3	5		
E	Ethyl methyl ketone (RQ-5000/2270)	Flammable liquid	UN1193	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	Fluorine or Fluorine, compressed (RQ-10/4.54)	Nonflammable gas	UN1045	Poison and Oxidizer	None	173.302	Forbidden	Forbidden	1	5	Stow in well ventilated space away from organic materials	
E	Furan (RQ-100/4.54)	Flammable liquid	UN2389	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	Furfural (RQ-5000/2270)	Combustible liquid	UN1199	None	173.118a	None	No limit	No limit	1.2	1		
E	Hexaethyl tetraphosphate (RQ-100/4.54) and compressed gas mixture	Poison A	UN1612	Poison gas	None	173.334	Forbidden	Forbidden	1	5	Shade from radiant heat	
E	Hexaethyl tetraphosphate, liquid (RQ-100/4.54)	Poison B	UN1611	Poison	None	173.358	Forbidden	1 quart	1	4		
E	Hexaethyl tetraphosphate mixture, dry (containing more than 2% hexaethyl tetraphosphate) (RQ-100/4.54)	Poison B	NA2783	Poison	None	173.377	Forbidden	200 pounds	1.2	5		
E	Hexaethyl tetraphosphate mixture, dry (containing not more than 2% hexaethyl tetraphosphate) (RQ-100/4.54)	Poison B	NA2783	Poison	173.377	173.377	50 pounds	200 pounds	1.2	4		
E	Hexaethyl tetraphosphate mixture, liquid (containing more than 25% hexaethyl tetraphosphate) (RQ-100/4.54)	Poison B	NA2783	Poison	None	173.359	Forbidden	1 quart	1.2	5		
E	Hexaethyl tetraphosphate mixture, liquid (containing not more than 25% hexaethyl tetraphosphate) (RQ-100/4.54)	Poison B	UN2783	Poison	173.359	173.359	1 quart	1 quart	1.2	4		
E	Hydrofluoric (RQ-100/4.54) and sulfuric (RQ-1000/4.54) acid mixture	Corrosive material	UN1788	Corrosive	None	173.290	Forbidden	1 gallon	1	5		
E	Hydrofluoric acid solution (RQ-100/4.54)	Corrosive material	UN1790	Corrosive	173.244	173.264	1 quart	1 gallon	1	4		
E	Hydrogen fluoride (RQ-100/4.54)	Corrosive material	NA1052	Corrosive	None	173.264	Forbidden	110 pounds	1	5		
E	Kethane (RQ-10/4.54)	ORM-E	NA2781	None	None	173.510	No limit	No limit	1.2	1.2		
EA	Malathion (RQ-100/4.54)	ORM-A	NA2783	None	173.505	173.510	No limit	No limit	1.2	1.2		
E	Mercaptodimethur (RQ-10/4.54)	ORM-E	NA2757	None	None	173.510	No limit	No limit	1.2	1.2		
EA	Mercury, metallic (RQ-10/4.54)	ORM-B	NA2809	None	None	173.860	173.860	173.860	1.2	1	Stow away from living quarters and aisles.	
+E	Methylamine, anhydrous (RQ-100/4.54)	Flammable gas	UN1061	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1	4		
E	Methylamine, aqueous solution (RQ-100/4.54)	Flammable liquid	UN1235	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.3	4	Stow away from mercury and its compounds	
+E	Methyl bromide (RQ-1000/4.54) and more than 2% chloropicrin mixture, liquid	Poison B	NA1581	Poison	None	173.358	Forbidden	Forbidden	1	5	Shade from radiant heat	
+E	Methyl bromide (RQ-1000/4.54) and nonflammable, nonliquefied compressed gas mixture, liquid (including up to 2% chloropicrin)	Poison B	NA1955	Poison	None	173.355a	Forbidden	300 pounds	1	5	Stow away from living quarters	
+E	Methyl bromide (RQ-1000/4.54) and ethyl bromide (RQ-1000/4.54) mixture, liquid	Poison B	UN1847	Poison	None	173.358	Forbidden	55 gallons	1	1		
+E	Methyl bromide, liquid (including up to 2% chloropicrin) (RQ-1000/4.54)	Poison B	UN1062	Poison	None	173.358	Forbidden	55 gallons	1	5	Stow away from living quarters. Segregation same as for nonflammable gas	
EA	Methyl chloroform. See 1,1,1-Trichloroethane											
E	Methyl chloroformate (methyl chlorocarbonate) (RQ-1000/4.54)	Flammable liquid	UN1258	Flammable liquid and Poison	None	173.288	Forbidden	5 pints	1.2	1		
EA	Methylene chloride. See Dichloromethane											
E	Methyl ethyl ketone peroxide, in solution with not more than 9% by weight active oxygen (RQ-10/4.54). See Organic peroxide, liquid or solution, n.o.s.		UN2550									
E	Methyl ethyl ketone. See Ethyl methyl ketone											
E	Methylhydrazine (RQ-10/4.54)	Flammable liquid	UN1244	Flammable liquid and Poison	None	173.145	Forbidden	5 pints	1.2	1	Stow separate from oxidizing materials and corrosives	
E	Mevinphos (RQ-10/4.54)	Poison B	NA2783	Poison	None	173.358	Forbidden	1 quart	1.2	5		
E	Mevinphos mixture, dry (RQ-10/4.54)	Poison B	NA2783	Poison	173.377	173.377	Forbidden	200 pounds	1.2	4		
E	Mevinphos mixture, liquid (RQ-10/4.54)	Poison B	NA2783	Poison	173.359	173.359	1/2 pint	1 quart	1.2	5		
E	Nicotine hydrochloride (RQ-100/4.54)	Poison B	UN1656	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
E	Nicotine, liquid (RQ-100/43.4)	Poison B	UN1854	Poison	None	173.346	Forbidden	55 gallons	1.2	1.2	
E	Nicotine salicylate (RQ-100/43.4)	Poison B	UN1657	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
+E	Nicotine sulfate, solid (RQ-100/43.4)	Poison B	UN1658	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
+E	Nicotine sulfate, solution (RQ-100/43.4)	Poison B	UN1658	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2	
E	Nicotine tartrate (RQ-100/43.4)	Poison B	UN1659	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
E	Nitric oxide (RQ-10/4.54)	Poison A	UN1860	Poison gas	None	173.337	Forbidden	Forbidden	1	5	
E	Nitrogen dioxide, liquefied (RQ-10/4.54)	Poison A	UN1067	Poison gas and Oxidizer	None	173.336	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gases. Stow away from organic materials
E	Nitrogen tetroxide, liquefied (RQ-10/4.54)	Poison A	NA1067	Poison gas and Oxidizer	None	173.336	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gases. Stow away from organic materials
E	Nitroglycerin, liquid, not desensitized. See 173.51	Forbidden									
E	Nitroglycerin, spirits of. See Spirits of nitroglycerin										
E	Nitrophenol (o-m-p) (RQ-100/43.4)	ORM-E	UN1665	None	None	173.510	No limit	No limit	1.2	1.2	
E	Paraldehyde (RQ-1000/434)	Flammable liquid	UN1204	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1	
+E	Perchloromethyl mercaptan (RQ-100/43.4)	Poison B	UN1670	Poison	173.345	173.360	Forbidden	10 pounds	1	5	
E	Phenyl mercaptan (RQ-100/43.4)	Poison B	UN2337	Poison	173.345	173.346	Forbidden	10 gallons	1.2	1	
E	Phosgene (diphosgene) (RQ-10/4.54)	Poison A	UN1076	Poison gas	None	173.353	Forbidden	Forbidden	1	5	
E	Phosphine (RQ-100/43.4)	Poison A	UN2199	Poison gas and Flammable gas	None	173.328	Forbidden	Forbidden	1	5	Segregation same as for flammable gases
E	Phosphorus oxychloride (RQ-1000/434)	Corrosive material	UN1810	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
E	Phosphorus trichloride (RQ-1000/434)	Corrosive material	UN1809	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
E	Picrate of ammonia. See Ammonium picrate, dry or Ammonium picrate, wet										
E	Propargyl alcohol (RQ-1000/434)	Flammable liquid	NA1896	Flammable liquid and Poison	None	173.119	Forbidden	1 quart	1.2	5	
E	Propylamine (RQ-5000/2270)	Flammable liquid	UN1277	Flammable liquid	None	173.118	Forbidden	10 gallons	1.2	5	
E	Propylene dichloride (RQ-1000/434)	Flammable liquid	UN1279	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1	
E	Propylene oxide (RQ-100/43.4)	Flammable liquid	UN1280	Flammable liquid	173.118	173.119	Forbidden	1 gallon	1.2	4	
E	Pyrethrins (RQ-1/0.434)	ORM-E	NA9184	None	None	173.510	No limit	No limit	1.2	1.2	
E	Quinoline (RQ-5000/2270)	ORM-E	UN2656	None	None	173.510	No limit	No limit	1.2	1.2	
E	Refrigerant gas, n.o.s. or Dispersant gas, n.o.s. (these materials may contain various hazardous substances for which the appropriate RQ applies)	Nonflammable gas	UN1078	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1.2	1.2	
E	Refrigerant gas, n.o.s. or Dispersant gas, n.o.s. (these materials may contain various hazardous substances for which the appropriate RQ applies)	Flammable gas	NA1854	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1.2	1.2	
E	Resorcinol (RQ-5000/2270)	ORM-E	UN2876	None	None	173.510	No limit	No limit	1.2	1.2	
+E	Silver cyanide (RQ-1/0.434)	Poison B	UN1684	Poison	173.370	173.370	25 pounds	300 pounds	1.2	1.2	Stow away from acids
+E	Sodium azide (RQ-1000/434)	Poison B	UN1687	Poison	173.364	173.375	50 pounds	100 pounds	1.2	1.2	Stow away from heavy metals, especially lead and its compounds. Stow separate from acids
EA	Sodium fluoride, solid (RQ-1000/434)	ORM-B	UN1690	None	173.505	173.510	No limit	No limit	1.2	1.2	
E	Sodium fluoride, solution (RQ-1000/434)	Corrosive material	UN1690	Corrosive	173.244	173.245	1 quart	5 gallons	1.2	1.2	Stow away from acids
E	Sodium, metal dispersion, in organic solvent (RQ-10/4.54)	Flammable solid	UN1429	Flammable solid and Dangerous when wet	None	173.230	Forbidden	10 pounds	1.2	5	Segregation same as for flammable solids labeled Dangerous When Wet
E	Sodium metal liquid alloy (RQ-10/4.54)	Flammable solid	NA1421	Flammable solid and Dangerous when wet	None	173.202	Forbidden	1 pound	1.2	5	Segregation same as for flammable solids labeled Dangerous When Wet
E	Spirits of nitroglycerin, (1 to 10%) (RQ-10/4.54)	Flammable liquid	NA1204	Flammable liquid	None	173.139	Forbidden	6 quarts	1.2	5	Segregation same as for explosives
E	Spirits of nitroglycerin, not exceeding 1% nitroglycerin by weight (RQ-10/4.54)	Flammable liquid	NA1204	Flammable liquid	173.118	173.139	1 quart	6 quarts	1.2	1	
E	Tetraethylthiopyrophosphate and compressed gas mixture (RQ-100/43.4)	Poison A	UN1708	Poison gas	None	173.334	Forbidden	Forbidden	1	5	Shade from radiant heat. Stow away from living quarters. Segregation same as for nonflammable gases
E	Tetraethylthiopyrophosphate, liquid (RQ-100/43.4)	Poison B	UN1704	Poison	None	173.358	Forbidden	1 quart	1	5	
E	Tetraethylthiopyrophosphate mixture, dry (RQ-100/43.4)	Poison B	UN1704	Poison	None	173.377	Forbidden	200 pounds	1	5	
E	Tetraethylthiopyrophosphate mixture, liquid (RQ-100/43.4)	Poison B	UN1704	Poison	None	173.359	Forbidden	1 quart	1	5	
E	Tetrahydrofuran (RQ-1000/434)	Flammable liquid	UN2056	Flammable liquid	None	173.119	Forbidden	10 gallons	1.2	5	

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(4A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
E	Tetranitromethane (RQ-10/4.54)	Oxidizer	UN1510	Oxidizer	None	173.203	Forbidden	Forbidden	1	5	Shade from radiant heat. Stow away from food-stuffs	
E	Thiophenol. See Phenyl mercaptan											
EA	Thiram (RQ-10/4.54)	ORM-A	NA2771	None	173.505	173.510	No limit	No limit	1,2	1,2		
EA	1,1,1-Trichloroethane (RQ-1000/454)	ORM-A	UN2831	None	173.505	173.605	10 gallons	55 gallons	1,2	1,2		
EA	2,4,5-Trichlorophenoxyacetic acid (RQ-1000/454)	ORM-A	NA2785	None	173.505	173.510	50 pounds	No limit	1,2	1,2		
E	Vinyl acetate (RQ-5000/2270)	Flammable liquid	UN1301	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1		
EA	Xylenol (except 2,4-Xylenol) (RQ-1000/454)	ORM-A	UN2281	None	173.505	173.510	100 pounds	No limit	1,2	1,2		
E	Zinc bromide (RQ-5000/2270)	Corrosive material	NA8156	Corrosive	173.384	173.386	25 pounds	100 pounds	1,2	1,2	Keep dry	
E	Zirconium potassium fluoride (RQ-1000/454)	ORM-E	NA8162	None	None	173.510	No limit	No limit	1,2	1,2		
*** ADDITIONS ***												
E	Acetophenone (RQ-5000/2270)	Combustible liquid	NA9207	None	173.118a	None	No limit	No limit	1,2	1,2		
E	1-Acetyl-2-thiourea (RQ-1000/454)	Poison B	NA9208	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		
EAW	Acrylamide (RQ-5000/2270)	ORM-A	UN2074	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	Aldicarb (RQ-1/0.434)	Poison B	NA2757	Poison	173.384	173.385	10 pounds	100 pounds	1,2	1,2		
E	5-(Aminomethyl)-3-isoxazolol (muscimol) (RQ-1000/454)	Poison B	NA9209	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		
E	4-Aminopyridine (RQ-1000/454)	Poison B	NA9210	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		
E	Ammonium picrate, dry (RQ-10/4.54)	Class A Explosive		Explosive	173.65	173.65	Forbidden	Forbidden	6	5		
E	Ammonium picrate, wet (with 10% or more water, over 16 ounces in one outside packaging) (RQ-10/4.54)	Class A explosive		Explosive A	None	173.65	Forbidden	Forbidden	6	5		
E	Ammonium vanadate (RQ-1000/454)	Poison B	NA9211	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		
+E	Aniline (RQ-5000/2270)	Poison B	UN1547	Poison	None	173.347	Forbidden	55 gallons	1,2	1,2	Stow away from oxidizing materials and acids	
	Aniline drum, empty. See 173.347(d)	Poison B							1,2	1	Do not accept unless removable package notice is on drum and the instructions thereon have been carried out	
+E	Aniline oil, liquid. See Aniline											
E	Benzal chloride. See Benzylidene chloride											
E	Benzenehexachloride, gamma isomer. See Lindane											
E	Benzene sulfonyl chloride (RQ-100/45.4)	Corrosive material	UN2225	Corrosive	173.244	173.245	1 gallon	15 gallons	1,2	1,2		
EAW	Benzylidene chloride (in containers of 110 gallons or less) (RQ-5000/2270)	ORM-A	UN1886	None	173.505	173.510	1 gallon	15 gallons	1	5		
E	Benzylidene chloride (in containers over 110 gallons) (RQ-5000/2270)	Combustible liquid	UN1886	None	173.118a	None	1 gallon	15 gallons	1	5		
EA	Bis(2-chloroethoxy)methane (RQ-1000/454)	ORM-A	NA9213	None	173.505	173.510	15 gallons	55 gallons	1,2	1,2		
E	Bis(2-chloroisopropoxy)ether. See Dichloroisopropyl ether											
EAW	Bromoform (RQ-100/45.4)	ORM-A	UN2515	None	173.505	173.510	15 gallons	55 gallons	1,3	1,3	Keep cool	
EA	4-Bromophenyl phenyl ether (RQ-100/45.4)	ORM-A	NA9215	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	Butanol (primary) (RQ-5000/2270)	Flammable liquid	UN1120	Flammable liquid	173.118	173.125	1 quart	10 gallons	1,2	1		
	Butanol (secondary or tertiary)	Flammable liquid	UN1120	Flammable liquid	173.118	173.125	1 quart	10 gallons	1,2	1		
	Butyl alcohol. See Butanol											
E	Butyl benzyl phthalate (RQ-100/45.4)	ORM-K	NA9216	None	None	173.510	No limit	No limit	1,2	1,2		
E	Carbonyl fluoride (RQ-1000/454)	Poison A	UN2417	Poison gas and Nonflammable gas	None	173.328	Forbidden	Forbidden	1	5	Stow away from living quarters	
E	Chloroacetaldehyde (RQ-1000/454)	Poison B	UN2282	Poison	173.345	173.346	1 gallon	15 gallons	1	5		
EAW	p-Chloroaniline, solid (RQ-1000/454)	ORM-A	UN2018	None	173.505	173.510	No limit	No limit	1,2	1,2		
EA	Chlorodibromomethane (RQ-100/45.4)	ORM-A	NA9217	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	2-Chloroethyl vinyl ether (RQ-1000/454)	Flammable liquid	NA9218	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	5	Keep cool	
EAW	4-Chloro-m-cresol (RQ-5000/2270)	ORM-A	NA2669	None	173.505	173.510	No limit	No limit	1,3	1,3	Stow away from living quarters	
E	2-Chloronaphthalene (RQ-5000/2270)	ORM-E	NA9219	None	None	173.510	No limit	No limit	1,2	1,2		
EA	2-Chlorophenol (RQ-100/45.4)	ORM-A	UN2021	None	173.505	173.510	No limit	No limit	1,2	1,2		
EA	4-Chlorophenyl phenyl ether (RQ-5000/2270)	ORM-A	NA9220	None	173.505	173.510	No limit	No limit	1,2	1,2		
E	2-Chlorophenyl thiourea (RQ-100/45.4)	Poison B	NA9221	Poison	173.384	173.385	50 pounds	200 pounds	1,2	1,2		
E	3-Chloropropionitrile (RQ-1000/454)	Poison B	NA9221	Poison	173.345	173.346	1 gallon	15 gallons	1,2	1,2		
E	Cumene. See Isopropylbenzene											
E	Cyanide, inorganic, n.o.s. (RQ-10/4.54 for soluble salts not specified elsewhere)	Poison B	UN1588	Poison	173.384	173.370	25 pounds	200 pounds	1,2	1,2	Keep dry. Stow away from acids	

8172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
E	Cyclohexanone (RQ-5000/2270)	Combustible liquid	UN1915	None	173.118a	None	No limit	No limit	1.2	1.2		
EA	Dibromomethane (RQ-1000/434)	ORM-A	UN2644	None	173.505	173.510	No limit	No limit	1.2	1.2		
EA	m-Dichlorobenzene (in containers of 110 gallons or less) (RQ-100/43.4)	ORM-A	NA9255	None	173.505	173.510	No limit	No limit	1.2	1.2		
E	o-Dichlorobenzene (in containers over 110 gallons) (RQ-100/43.4)	Combustible liquid	UN1591	None	173.118a	None	No limit	No limit	1.2	1.2		
E	m-Dichlorobenzene (in containers over 110 gallons) (RQ-100/43.4)	Combustible liquid	NA9255	None	173.118a	None	No limit	No limit	1.2	1.2		
EA	Dichlorobromomethane (RQ-5000/2270)	ORM-A	NA9222	None	173.505	173.510	No limit	No limit	1.2	1.2		
E	1,4-Dichloro-2-butene (RQ-1/0.434)	Corrosive material	NA9267	Corrosive	173.244	173.245	1 quart	10 gallons	1	4		
E	1,1-Dichloroethane (RQ-1000/434)	Flammable liquid	UN2862	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
EA	1,2-Dichloroethane. See Ethylene dichloride											
E	1,2-Dichloroethylene (trans isomer) (RQ-1000/434)	Flammable liquid	UN1150	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
EA	2,4-Dichlorophenol (RQ-100/43.4) or 2,6-Dichlorophenol (RQ-100/43.4)	ORM-A	NA2020	None	173.505	173.510	No limit	No limit	1.2	1.2		
E	1,1-Dichloropropane (RQ-1000/434)	Flammable liquid	NA9223	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	1,3-Dichloropropane (RQ-1000/434)	Flammable liquid	NA9224	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	Diethyl-p-nitrophenyl phosphate (Paraoxon) (RQ-100/43.4)	Poison B	NA2788	Poison	None	173.368	Forbidden	1 quart	1.3	1.3		
E	O,O-Diethyl O-pyrazinylphosphorothioate (Thionazin) (RQ-100/43.4)	Poison B	NA2783	Poison	None	173.358	Forbidden	1 quart	1.3	1.3		
E	Diethyl phthalate (RQ-1000/434)	ORM-E	NA9226	None	None	173.510	No limit	No limit	1.2	1.2		
E	O,O-Diethyl S-methyl dithiophosphate (RQ-5000/2270)	Poison B	NA2785	Poison	173.377	173.377	Forbidden	200 pounds	1.2	4		
E	Diisopropyl fluorophosphate (RQ-100/43.4)	Poison B	NA9227	Poison	None	173.368	Forbidden	Forbidden	1.3	1.3		
EA	Dimethoate (RQ-10/4.34)	ORM-A	NA2785	None	173.505	173.510	No limit	No limit	1.2	1.2		
EA	Dimethylphenol. See Xylenol											
EA	2,4-Dimethylphenol. See 2,4-Xylenol											
EA	1,1-Dimethyl-2-phenylethanamine (RQ-5000/2270)	ORM-A	NA9232	None	173.505	173.510	None	None	1.2	1.2		
EA	Dimethyl phthalate (RQ-5000/2270)	ORM-A	NA9228	None	173.505	173.510	55 gallons	55 gallons	1.2	1.2		
E	Dinitrobenzene (RQ-100/43.4)	Poison B	UN1597	Poison	173.364	173.371	50 pounds	200 pounds	1.2	1.2		
E	4,6-Dinitro-o-cresol (RQ-10/4.34)	Poison B	UN1598	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	4,6-Dinitro-o-cresol salt (RQ-10/4.34)	Poison B	NA1698	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
EA	4,6-Dinitro-o-cyclohexylphenol (RQ-100/43.4)	ORM-A	NA9026	None	173.505	173.510	None	None	1.2	1.2		
E	Dinoseb (RQ-1000/434)	Poison B	NA2779	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	Di-n-octyl phthalate (RQ-5000/2270)	ORM-E	NA9220	None	None	173.510	No limit	No limit	1.2	1.2		
E	2,4-Dithiobiuret (RQ-100/43.4)	Poison B	NA9230	Poison	173.364	173.365	10 pounds	100 pounds	1.2	1		
E	Endosulfan sulfate (RQ-1/0.434)	Poison B	NA2761	Poison	173.364	173.365	1 pound	10 pounds	1.2	1		
E	Endothall (RQ-1000/434)	Poison B	NA9231	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	Endrin aldehyde (RQ-1/0.434)	Poison B	NA2761	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	Ethyl cyanide. See Propionitrile											
E	Ethyl methacrylate (RQ-1000/434)	Flammable liquid	UN2277	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
E	Famphur (RQ-1000/434)	Poison B	UN2763	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	Fluoroacetamide (RQ-100/43.4)	Poison B	NA9263	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F003) (RQ-100/43.4)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F007) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F008) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F009) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F010) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F011) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (F012) (RQ-10/4.34)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (K014) (RQ-5000/2270)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (K023) (RQ-5000/2270)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (K024) (RQ-5000/2270)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (K036) (RQ-1/0.434)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		
E	Hazardous waste, liquid or solid, n.o.s. (K037) (RQ-1/0.434)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2		

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
E	Hazardous waste, liquid or solid, n.o.s. (K044) (RQ-10/4.54)	ORM-E	NA9189	None	None	173.1800	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K045) (RQ-10/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K047) (RQ-10/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K071) (RQ-10/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K083) (RQ-100/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K093) (RQ-5000/2270)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K094) (RQ-5000/2270)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K103) (RQ-100/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
E	Hazardous waste, liquid or solid, n.o.s. (K106) (RQ-10/4.54)	ORM-E	NA9189	None	None	173.1300	Forbidden	550 pounds	1.2	1.2	
EA	Hexachloropropene (RQ-1000/4.54)	ORM-A	NA0225	None	173.505	173.510	No limit	No limit	1.2	1.2	
E	Isobutanol (RQ-5000/2270)	Flammable liquid	UN1212	Flammable liquid	173.118	173.125	1 quart	10 gallons	1.2	1	
E	Isobutyl alcohol. See Isobutanol										
E	Isodrin (Hexachlorohexahydro-endo-dimethanonaphthalene) (RQ-10/4.54)	Poison B	UN2761	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
EA	Isophorone (in containers of 110 gallons or less) (RQ-5000/2270)	ORM-A	NA9235	None	173.505	173.510	No limit	No limit	1.2	1.2	
E	Isophorone (in containers over 110 gallons) (RQ-5000/2270)	Combustible liquid	NA9235	None	173.118a	None	No limit	No limit	1.2	1.2	
E	Isopropylbenzene (Cumene) (RQ-5000/2270)	Combustible liquid	UN1918	None	173.118a	None	No limit	No limit	1.2	1.2	
E	Maleic hydrazide (RQ-5000/2270)	ORM-E	NA9230	None	None	173.510	No limit	No limit	1.2	1.2	
EA	Malononitrile (RQ-1000/4.54)	ORM-A	UN2647	None	173.505	173.510	50 pounds	200 pounds	1.3	1.3	Keep cool. Stow away from living quarters
E	Methacrylonitrile (RQ-1000/4.54)	Flammable liquid	NA9237	Flammable liquid and Poison	None	173.119	1 quart	10 gallons	1.2	1	
E	Methanol (RQ-5000/2270)	Flammable liquid	UN1230	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1	
EA	Methacrylonitrile (RQ-5000/2270)	ORM-A	NA9238	None	173.506	173.510	No limit	No limit	1.2	1.2	
E	Methomyl (RQ-100/4.54)	Poison B	NA2757	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
E	Methyl alcohol. See Methanol										
E	Methyl isobutyl ketone (RQ-5000/2270)	Flammable liquid	UN1245	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1	
EA	Naphthalene, crude or refined (RQ-100/4.54)	ORM-A	UN1834	None	173.505	173.505	25 pounds	300 pounds	1.2	1.2	Stow same as for flammable solids
EA	1,4-Naphthoquinone (RQ-5000/2270)	ORM-A	NA9239	None	173.505	173.510	No limit	No limit	1.2	1.2	
E	Naphthylthiourea (alpha) (RQ-100/4.54)	Poison B	UN1651	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
+E	p-Nitroaniline (RQ-5000/2270)	Poison B	UN1661	Poison	173.364	173.373	50 pounds	200 pounds	1.2	1.2	
+E	Nitroaniline (o,m-)	Poison B	UN1661	Poison	173.364	173.373	50 pounds	200 pounds	1.2	1.2	
E	Nitrogen peroxide. See Nitrogen dioxide, liquefied or Nitrogen tetroxide, liquefied										
E	Nitroglycerin, liquid, desensitized (RQ-10/4.54)	Class A explosive		Explosive A	None	173.82	Forbidden	Forbidden	6	5	
E	N-Nitrosodiphenylamine (RQ-100/4.54)	ORM-E	NA9240	None	None	173.510	No limit	No limit	1.2	1.2	
E	Octamethylpyrophosphoramide (RQ-100/4.54)	Poison B	NA9241	Poison	173.345	173.346	1 quart	10 gallons	1.2	1.2	
E	Osmium tetroxide (RQ-1000/4.54)	Poison B	UN2474	Poison	173.364	173.365	10 pounds	100 pounds	1.2	1	Stow away from living quarters
E	1,3-Pentadiene (Piperylene) (RQ-100/4.54)	Flammable liquid	NA9242	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	3	
E	N-Phenylthiourea (RQ-100/4.54)	Poison B	NA9243	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2	
E	Phthalic anhydride (RQ-5000/2270)	Corrosive material	UN2214	Corrosive	173.244	173.245b	50 pounds	200 pounds	1.2	1.2	Stow away from foodstuffs
E	2-Picoline (RQ-5000/2270)	Flammable liquid	UN2773	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1.2	
E	Potassium silver cyanide (RQ-10/4.54)	Poison B	NA1588	Poison	173.370	173.370	25 pounds	200 pounds	1.2	1.2	Stow away from acids
E	Potassium sodium alloy (liquid) (RQ-10/4.54 for sodium)	Flammable solid	UN1422	Flammable solid and Dangerous when wet	None	173.202	Forbidden	1 pound	1.2	5	Underdeck stowage must be readily accessible. Segregation same as for flammable solids labeled Dangerous When Wet
E	Potassium sodium alloy (solid) (RQ-10/4.54 for sodium)	Flammable solid	UN1422	Flammable solid and Dangerous when wet	None	173.208	Forbidden	25 pounds	1.2	5	Underdeck stowage must be readily accessible. Segregation same as for flammable solids labeled Dangerous When Wet
E	Pronamide (RQ-5000/2270)	ORM-E	NA9244	None	None	173.510	No limit	No limit	1.2	1.2	
E	Propionitrile (RQ-10/4.54)	Flammable liquid	UN2404	Flammable liquid and Poison	None	173.118	Forbidden	10 gallons	1.2	5	Keep cool
E	Reserpine (RQ-5000/2270)	ORM-E	NA9256	None	None	173.510	No limit	No limit	1.2	1.2	
E	Silver (RQ-1000/4.54 for particle size finer than 140 mesh)	ORM-E	NA9245	None	None	173.510	No limit	No limit	1.2	1.2	

§172.101 Hazardous Materials Table (cont'd)

(1) +/ E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) Identification number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
R	Sodium (RQ-10/4.54)	Flammable solid	UN1428	Flammable solid and Dangerous when wet	None	178.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
R	Sodium potassium alloy (liquid). See Potassium sodium alloy (liquid)										
R	Sodium potassium alloy (solid). See Potassium sodium alloy (solid)										
EA	Strontium sulfide (RQ-100/43.4)	ORM-A	NA9246	None	178.505	178.510	No limit	No limit	1,2	1,2	
E	2,4,5-T amine. See 2,4,5-Trichlorophenoxyacetic acid amine										
E	2,4,5-T ester or salt. See 2,4,5-Trichlorophenoxyacetic acid ester or salt										
EA	1,2,4,5-Tetrachlorobenzene (RQ-5000/2270)	ORM-A	NA9247	None	178.505	178.510	No limit	No limit	1,2	1,2	
EA	2,3,4,6-Tetrachlorophenol (RQ-10/4.54)	ORM-A	NA9248	None	178.505	178.510	No limit	No limit	1,2	1,2	
E	Thiofanox (RQ-100/43.4)	Poison B	NA9249	Poison	178.384	178.385	50 pounds	200 pounds	1,2	1,2	
E	Thiosemicarbazide (RQ-100/43.4)	Poison B	NA9250	Poison	178.384	178.385	50 pounds	200 pounds	1,2	1,2	
EA	1,2,4-Trichlorobenzene (RQ-100/43.4)	ORM-A	NA9251	None	178.505	178.510	No limit	No limit	1,2	1,2	
E	Trichlorofluoromethane (RQ-5000/2270)	ORM-E	NA9252	None	None	178.510	No limit	No limit	1,2	1,2	
E	Trichloromethanesulfonyl chloride. See Perchloromethyl mercaptan										
R	2,4,5-Trichlorophenoxyacetic acid amine (RQ-5000/2270)	ORM-E	NA2765	None	None	178.510	No limit	No limit	1,2	1,2	
E	2,4,5-Trichlorophenoxyacetic acid ester or salt (RQ-100/43.4)	ORM-E	NA2766	None	None	178.510	No limit	No limit	1,2	1,2	
E	Warfarin (RQ-100/43.4)	Poison B	NA9253	Poison	178.384	178.385	50 pounds	200 pounds	1,2	1,2	
EA	2,4-Xylenol (2,4-dimethylphenol) (RQ-100/43.4)	ORM-A	UN2281	None	178.505	178.510	100 pounds	No limit	1,2	1,2	
E	Zinc bromide, solution (RQ-5000/2270)	Corrosive material	NA9254	Corrosive	178.244	178.245	1 quart	1 quart	1,2	1,2	Keep dry
R	Zinc chloride, anhydrous (RQ-5000/2270)	Corrosive material	UN2531	Corrosive	178.244	178.245b	50 pounds	200 pounds	1,2	1,2	

6. In 172.203, paragraph (c)(3) would be added to read as follows:

§ 172.203 Additional description requirements.

(c) * * *

(3) For those hazardous substances which are wastes that exhibit an EPA characteristic of ignitibility, corrosivity or reactivity (ICR), the ICR characteristic must be shown in parenthesis as part of the proper shipping name, as required by § 172.101(c)(15).

7. In 172.324, paragraph (c) would be added to read as follows:

§ 172.324 Hazardous substances.

(c) For those hazardous substances which are wastes that exhibit an EPA characteristic of ignitibility, corrosivity or reactivity (ICR), the applicable ICR characteristic must be shown in parenthesis as part of the proper shipping name, as required by § 172.101(c)(15).

PART 173—SHIPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

8. The authority citation for Part 173 would be revised to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1806, 1807, 1808; 49 CFR Part 1.

9. In the table of contents to Part 173, the titles of §§ 173.202, 173.336, 173.347, 173.373 and 173.655 would be revised, and the title of § 173.206 would be amended by changing the words "Sodium or potassium, metallic" to "Sodium; potassium, metallic", and "sodium potassium alloys" to "potassium alloys" to read as follows:

PART 173—SHIPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGES

Sec.

173.202 Sodium metal liquid alloy, potassium metal liquid alloy, and potassium sodium liquid alloy.

173.206 Sodium; potassium, metallic; sodium amide; potassium sodium alloys;

173.336 Nitrogen dioxide, liquefied and nitrogen tetroxide, liquefied.

173.347 Aniline.

173.373 Ortho-nitroaniline, meta-nitroaniline and para-nitroaniline.

173.655 Naphthalene, crude or refined.

10. In § 173.202, the title of the section and paragraph (a) introductory text would be amended by replacing the words "sodium potassium liquid alloy" with the words "potassium sodium liquid alloy".

11. The title of § 173.206 would be amended by changing the words "Sodium or potassium, metallic" to "Sodium; potassium, metallic", and "sodium potassium alloys" to "potassium sodium alloys"; paragraph (a) introductory text would be amended by changing the words "Metallic sodium or potassium" to "Sodium, metallic potassium", and "sodium potassium alloys" to "potassium sodium alloys"; paragraph (a)(3) would be amended by revising the last sentence; paragraph (a)(10) would be amended by revising the second sentence; paragraph (b) introductory text would be amended by changing the words "Sodium or potassium, metallic" to "Sodium, metallic potassium", and paragraph (c) introductory text would be revised to read as follows:

§ 173.206 Sodium; potassium, metallic; sodium amide; potassium sodium alloys;

(a) Sodium, metallic potassium, sodium amide, potassium sodium alloys.

(3) * * * Authorized only for lithium metal and sodium which must be fused solid in the container.

(10) * * * Authorized only for sodium, metallic lithium, metallic potassium, and potassium sodium alloy.

(b) Sodium, metallic potassium.

(c) Sodium may also be shipped when packaged in specification containers as follows:

12. In § 173.326, paragraph (a)(10) would be amended to replace the words "Nitrogen peroxide (tetroxide)" with the words "Nitrogen tetroxide."

13. In § 173.336, the title of the section and the introductory text of paragraph (a) would be amended to delete the words "nitrogen peroxide, liquid" and change the word "liquid" used elsewhere to the word "liquefied" to read as follows:

§ 173.336 Nitrogen dioxide, liquefied and nitrogen tetroxide, liquefied.

(a) Nitrogen dioxide, liquefied and

nitrogen tetroxide, liquefied must be packed in specification containers as follows:

14. In § 173.347, the title of the section, the introductory text of paragraph (a), paragraph (c)(1) and the last sentence of paragraph (d) would be amended to delete the word "oil" used in conjunction with the word "aniline" to read as follows:

§ 173.347 Aniline.

(a) Aniline must be packed in specification containers as follows:

(c) * * *

(1) The exterior of filled drums must be carefully examined for evidence of aniline.

(d) * * * ANILINE STAINS ON THE OUTSIDE OF DRUMS SHOULD BE WASHED OFF WITH WATER OR, PREFERABLY, WEAK ACETIC ACID, shellacked to head of drum near the consignee's name and address.

15. Section 173.373 would be amended to add the word "meta-nitroaniline" to the title of the section and paragraph (a) introductory text, and to replace the word "paranitroaniline" in the title of the section and paragraph (a) introductory text, (a)(4) and (a)(5) with the word "para-nitroaniline" to read as follows:

§ 173.373 Ortho-nitroaniline, meta-nitroaniline and para-nitroaniline

(a) Ortho-nitroaniline, meta-nitroaniline and para-nitroaniline must be packed in specification containers as follows:

(4) In addition to specification containers prescribed in this section, para-nitroaniline may be shipped by highway in bulk in strong, water-tight, metal bodied, covered hopper motor vehicles.

(5) * * * Authorized for para-nitroaniline only.

16. Section 173.655 would be amended to replace the words "naphthalene or naphthalin" in the title of the section and paragraphs (a), (b) and (c) introductory texts with the words "Naphthalene, crude or refined".

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Alan I. Roberts,

Director, Office of Hazardous Materials Transportation, Research and Special Programs Administration.

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